

"NONCO"

CATALOG No. 40

**WATER WORKS
MILL SUPPLIES
PUMPS
MACHINERY**

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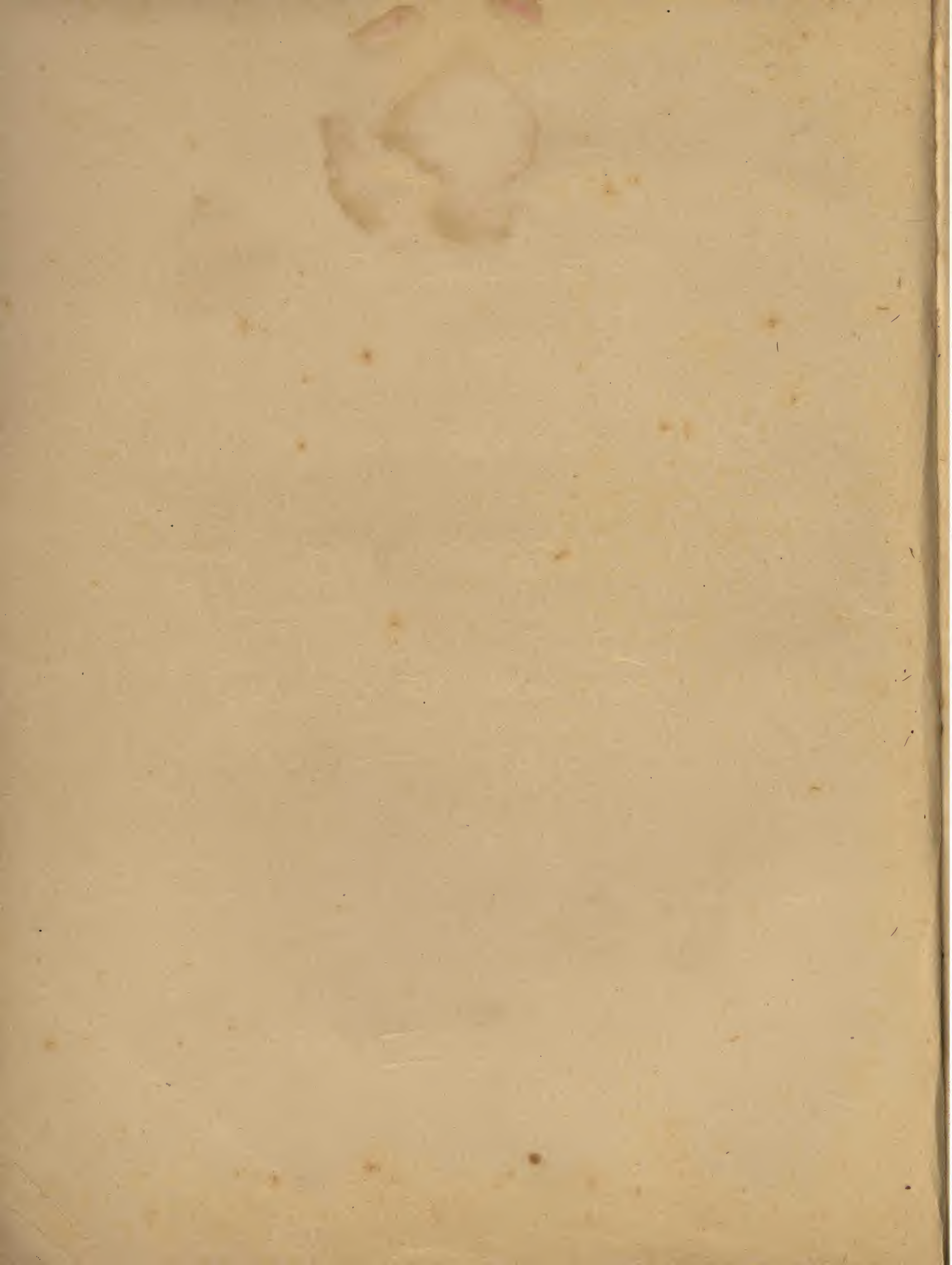
From the collection of:

Alan O'Bright

TO THE
PRESIDENT
OF
THE COVE SPRING
WATER WORKS

GORDON GASAWAY





#40 Catalog
35⁰⁰

SAM'L F. MYERSON PRINTING CO.

OFFICE AND MAIN PLANT LITTLE & BECKER BRANCH
3RD AND CHESTNUT STS. 9TH AND WALNUT STS.

ST. LOUIS



"NONCO"

Water Works and Mill Supplies
Hot Water and Steam Heating
Pumps and Machinery



N. O. Nelson Manufacturing Co.

MAIN OFFICES, SHOWROOMS AND STORE

Tenth and Chestnut Streets
ST. LOUIS, MO., U. S. A.

BRANCHES AND SELLING AGENCIES

Los Angeles, Cal. Salt Lake City, Utah
Pueblo, Colo. Memphis, Tenn.

Houston, Texas

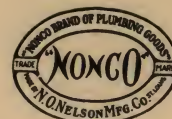
FACTORIES

St. Louis, Mo.

Leclaire, Ill.

Bessemer, Ala.

Noblesville, Ind.



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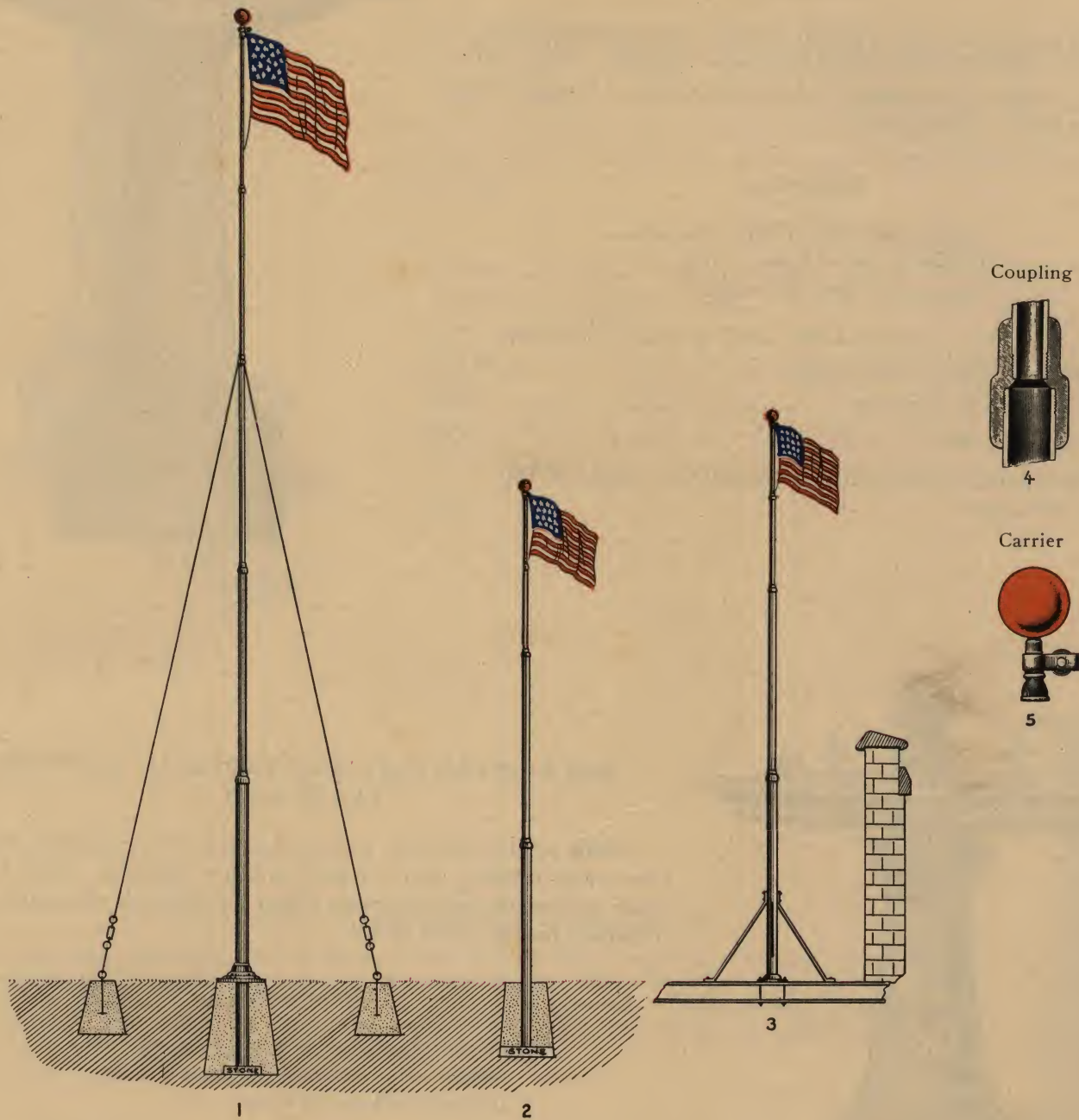
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XONCO STEEL TUBULAR FLAGSTAFFS

Equipped with XONCO flagstaff couplings and ball-bearing halyard carrier. Can be furnished in any height. Standard heights are 25, 50, 75 and 100 feet.

Any of above flagstaffs can be furnished with or without guy rods. Prices on application.



**KONGO PAINTED CAST IRON PEDESTAL FOUNTAIN,
PLATE 631 N**

KONGO painted cast iron pedestal fountain with continuous-flow vitreous china bubblers with concealed pressure regulators (Plate 619 N), waste and supply pipes arranged within the pedestal, all exposed brass trimmings heavily nickel plated.

Dimensions

Outside diameter of basin, 24 inches.
Height to top of basin, 3 feet.
Diameter of base, 12 inches.

- Complete with three continuous-flow bubbling jets, as described, arranged to fasten to stone, each.....\$73.00
- Same, arranged to go in ground..... 76.00
- If with dog basin, add..... 5.00
- If with self-closing fountain valves (Plate 609 N) instead of bubblers, add, each..... 4.25



631 N



632 N

**KONGO PAINTED CAST IRON PEDESTAL FOUNTAIN,
PLATE 632 N**

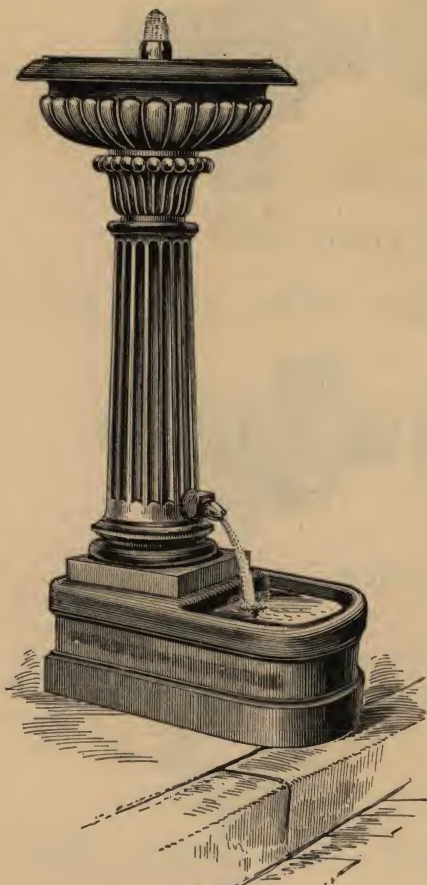
KONGO painted cast iron pedestal fountain with continuous-flow vitreous china bubblers with concealed pressure regulators (Plate 619 N), waste and supply pipes arranged within the pedestal, all exposed brass trimmings heavily nickel plated.

Dimensions

Outside diameter of basin, 24 inches.
Height to top of standard, 3 feet 6 inches.
Diameter of base, 12 inches.

- Complete with two continuous-flow bubbling jets, as described, arranged to fasten to stone or cement, each.....\$67.50
- Same, arranged to go in ground..... 70.50
- If with self-closing fountain valves (Plate 609 N) instead of bubblers, add, each..... 4.25

KONGO special catalog of drinking fountains will be sent on request.



633 N

KNOXCO PAINTED CAST IRON PEDESTAL FOUNTAIN, PLATE 633 N

KNOXCO painted cast iron pedestal fountain, with dog basin, continuous-flow vitreous china bubbler with concealed pressure regulator (Plate 619 N), waste and supply pipes arranged within the pedestal, all exposed brass trimmings heavily nickel plated.

Dimensions

Outside diameter of basin, 16 inches.
 Height to top of basin, 3 feet.
 Base, 18x11 inches.

Complete with one continuous-flow bubbler, as described, arranged to fasten to stone or concrete, each..... \$80.00
 If with self-closing fountain valve (Plate 609 N) instead of bubbler, add, each 4.25

MURDOCK "BUBBLE-FONT," PLATE 627 N

The valve and regulator are located in the ground below frost line. The foot treadle opens the valve, causing the water to rise to the bubbler and a separate waste pipe conducts the overflow from the basin back to a point below frost line. When the valve is closed by releasing the treadle the water in the supply pipe drains through the by-passes in the valve into the trap and thence into the sewer.

Dimensions

Diameter of top, 9½ inches; diameter of base, 14 inches.
 Size of inlet, ¾ inch; size of waste, 1¼ inches.

Length, feet.....	2	3	4	5	6
Painted green and tipped with gilt, each.....	\$35.00	\$37.00	\$39.00	\$41.00	\$43.00

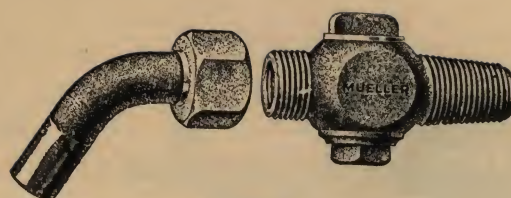


627 N

KNOXCO special catalog of drinking fountains will be sent on request.



1675 N



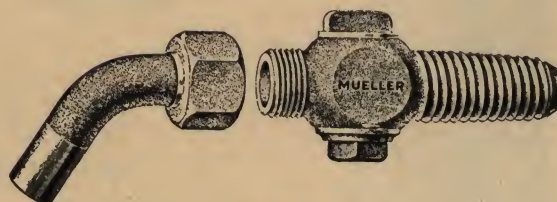
1676 N

CORPORATION COCKS, SCREW PLUG, PLATE 1675 N AND PLATE 1676 N

Sizes, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Straight or bent coupling, each.....	\$1.50	\$1.60	\$2.25	\$2.85	\$4.50	\$10.00	\$16.00	\$26.50



1677 N



1678 N

CORPORATION COCK, PLATE 1677 N

Sizes, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Threaded for iron pipe, both ends, each.....	\$1.35	\$1.45	\$1.95	\$2.50	\$4.00	\$9.25	\$15.00	\$25.00

CORPORATION COCK, PLATE 1678 N

Sizes, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Threaded for wood main, with straight or bent coupling, each.....	\$1.85	\$2.00	\$2.70	\$3.40	\$5.40	\$11.65	\$18.50	\$30.50

Note.—Corporation cocks fitted for hexagon plug can be furnished at same price as screw plug. In ordering, state name of machine.



1679 N

WATER TAP CONNECTIONS, PLATE 1679 N

KONGO water tap connections consist of 18 inches of extra strong lead pipe, with a Corporation cock wiped on one end and a soldering nipple on the other.

Sizes, inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Each	\$5.25	\$6.25	\$7.25	\$10.75	\$19.50	\$31.00

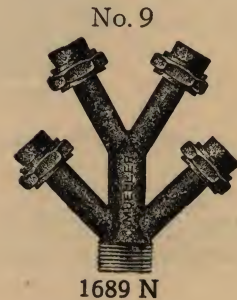
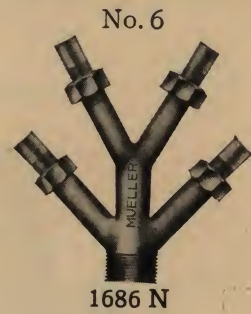


1680 N

KONGO LEAD FLANGE JOINT, PLATE 1680 N

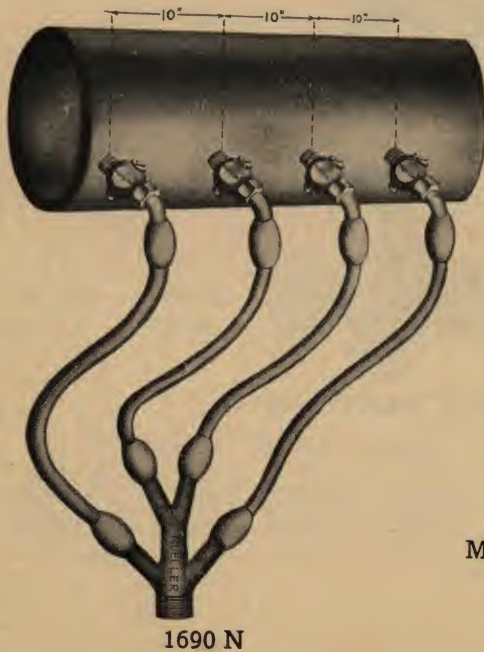
KONGO lead flange joints consist of 18 inches of extra strong lead pipe, with a Corporation cock wiped on one end and an iron pipe union on the other.

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Each	\$4.50	\$5.25	\$6.25	\$7.25	\$10.75	\$19.50	\$31.00

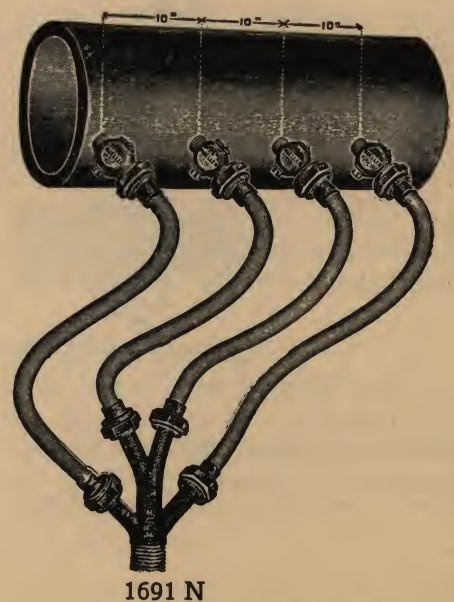


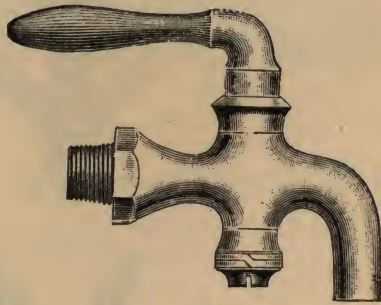
SPECIAL BRASS CONNECTIONS, PLATE 1681 N TO PLATE 1689 N

No. 1, for 1¼-inch outlet supply pipe, 1-inch L. P. inlets, each	\$2.05
No. 2, for 1½-inch outlet supply pipe, 1-inch L. P. inlets, each	3.25
No. 3, for 2 -inch outlet supply pipe, 1-inch L. P. inlets, each	5.40
No. 4, for 1¼-inch outlet supply pipe, 1-inch solder union inlets, each.....	4.10
No. 5, for 1½-inch outlet supply pipe, 1-inch solder union inlets, each.....	6.00
No. 6, for 2 -inch outlet supply pipe, 1-inch solder union inlets, each.....	8.60
No. 7, for 1¼-inch outlet supply pipe, 1-inch lead flange union coupling, each.....	5.00
No. 8, for 1½-inch outlet supply pipe, 1-inch lead flange union coupling, each.....	7.95
No. 9, for 2 -inch outlet supply pipe, 1-inch lead flange union coupling, each.....	11.05

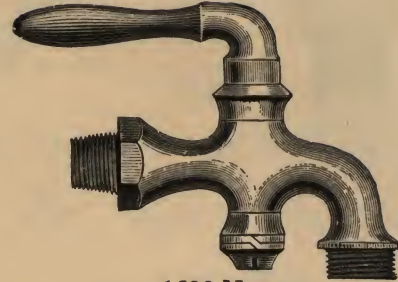


MANNER OF APPLYING BRASS WATER CONNECTIONS TO MAINS





1692 N



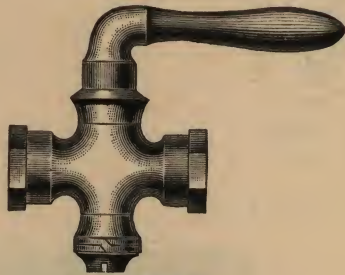
1693 N

LEVER HANDLE PLAIN BIBBS, PLATE 1692 N

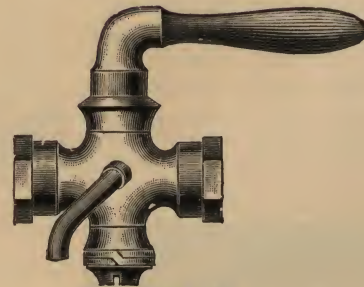
Size, inches	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Rough iron pipe, per dozen	\$20.40	\$21.00	\$29.40	\$36.00	\$52.80	\$ 89.40	\$149.40	\$258.00
Finished iron pipe, per dozen	25.20	25.80	35.40	45.00	64.80	107.40	179.40	300.00
Nickel plated iron pipe, per dozen	30.00	30.60	41.40	54.00	76.80	125.40	209.40	342.00

LEVER HANDLE HOSE BIBBS, PLATE 1693 N

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Rough iron pipe, per dozen	\$23.40	\$24.00	\$32.40	\$39.00	\$60.00	\$100.20	\$164.40	\$280.20
Finished iron pipe, per dozen	28.20	28.80	38.40	48.00	72.00	118.20	194.40	322.20
Nickel plated iron pipe, per dozen	33.00	33.60	44.40	57.00	84.00	136.20	224.40	364.20



1694 N



1695 N

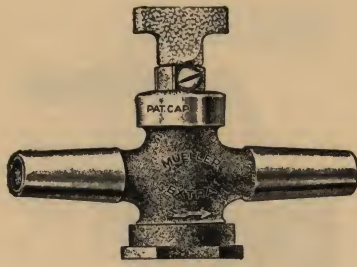
LEVER HANDLE FINISHED STOP-COCK, PLATE 1694 N

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Finished iron pipe, per dozen	\$25.20	\$25.80	\$35.40	\$45.00	\$64.80	\$107.40
Nickel plated iron pipe, per dozen	30.00	30.60	41.40	54.00	76.80	125.40

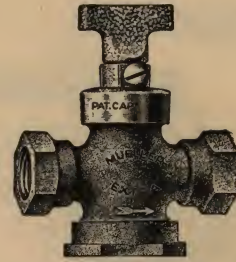
LEVER HANDLE FINISHED STOP AND WASTE COCK, PLATE 1695 N

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Finished iron pipe, per dozen	\$25.80	\$26.40	\$36.00	\$45.60	\$66.00	\$109.20
Nickel plated iron pipe, per dozen	30.60	31.20	42.00	54.60	78.00	127.20

Waste tubes extra.



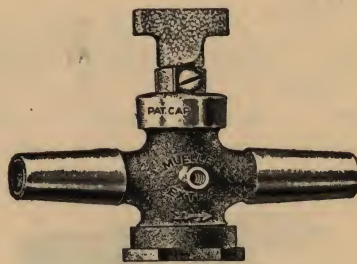
1696 N



1697 N

MUELLER INVERTED KEY ROUND-WAY CURB STOP-COCKS, PLATE 1696 N AND PLATE 1697 N

Size, inches	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, per dozen.....	\$37.80	\$49.20	\$63.60	\$96.00	\$155.40	\$251.40	\$426.00
Iron pipe, per dozen.....	35.40	45.60	58.80	88.80	144.60	233.40	396.00



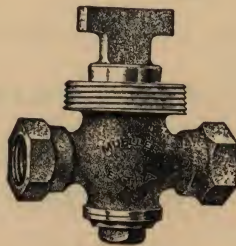
1698 N



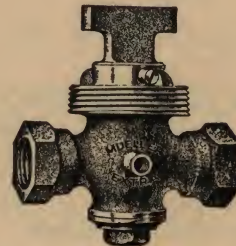
1699 N

MUELLER INVERTED KEY ROUND-WAY CURB STOP AND WASTE COCKS, PLATE 1698 N AND PLATE 1699 N

Size, inches	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, per dozen.....	\$38.40	\$49.80	\$64.20	\$97.20	\$157.20	\$254.40	\$432.00
Iron pipe, per dozen.....	36.00	46.20	59.40	90.00	146.40	236.40	402.00



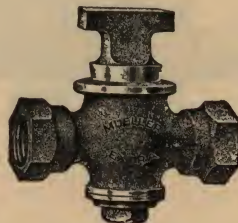
1700 N



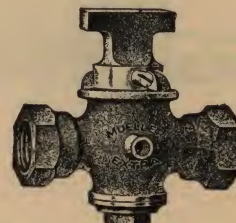
1701 N

MINNEAPOLIS PATTERN ROUND-WAY CURB COCKS, PLATE 1700 N AND PLATE 1701 N

Size, inches	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Stop, iron pipe, rough, per dozen.....	\$31.20	\$41.40	\$52.20	\$81.60	\$132.60	\$215.40	\$372.00
Stop and waste, iron pipe, rough, per dozen....	31.80	42.00	52.80	82.80	134.40	218.40	378.00



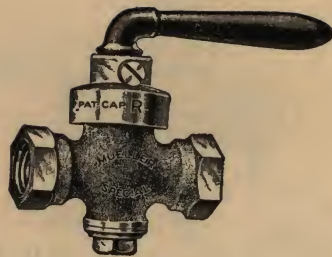
1702 N



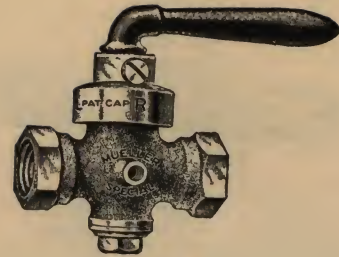
1703 N

MUELLER ROUND-WAY SOLID HANDLE CURB COCKS, PLATE 1702 N AND PLATE 1703 N

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Stop, iron pipe, rough, per dozen....	\$25.20	\$26.40	\$36.00	\$46.20	\$73.80	\$120.60	\$197.40	\$342.00
Stop and waste, iron pipe, rough, per dozen	25.80	27.00	36.60	46.80	75.00	122.40	200.40	348.00



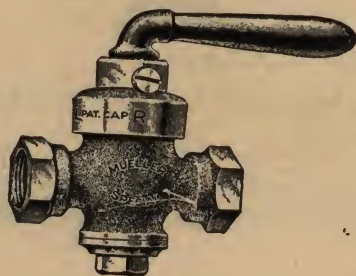
1704 N



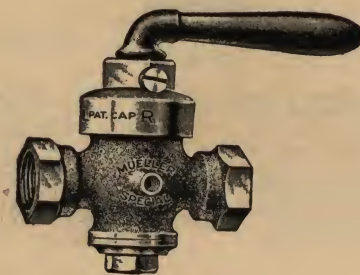
1705 N

**MUELLER SPECIAL STRAIGHT-WAY PATENT CAP STOP AND STOP AND WASTE COCKS,
PLATE 1704 N AND PLATE 1705 N**

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Stop, iron pipe, rough, per dozen...	\$20.40	\$21.00	\$29.40	\$36.00	\$52.80	\$89.40	\$149.40	\$258.00
Stop and waste, iron pipe, rough, per dozen	21.00	21.60	30.00	36.60	54.00	91.20	152.40	264.00



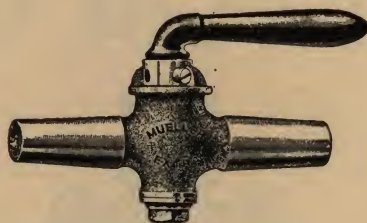
1706 N



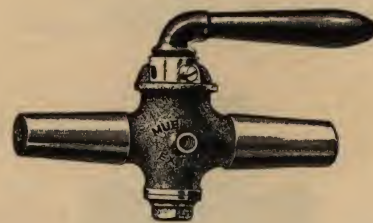
1707 N

**MUELLER SPECIAL ROUND-WAY PATENT CAP STOP AND STOP AND WASTE COCKS,
PLATE 1706 N AND PLATE 1707 N**

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Stop, iron pipe, rough, per dozen...	\$25.20	\$26.40	\$36.00	\$46.20	\$73.80	\$120.60	\$197.40	\$342.00
Stop and waste, iron pipe, rough, per dozen	25.80	27.00	36.60	46.80	75.00	122.40	200.40	348.00



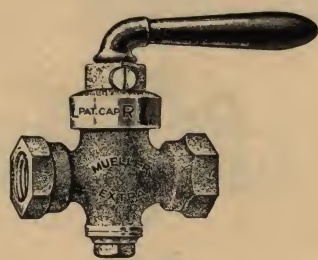
1708 N



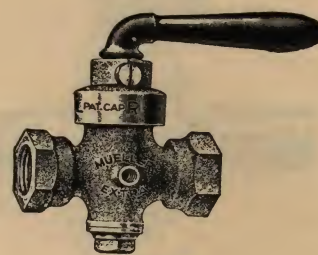
1709 N

**MUELLER EXTRA GRADE STOP AND STOP AND WASTE COCKS,
PLATE 1708 N AND PLATE 1709 N**

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Stop, lead pipe, rough, per dozen...	\$22.80	\$23.40	\$33.00	\$40.80	\$60.00	\$100.20	\$167.40	\$288.00
Stop and waste, lead pipe, rough, per dozen	23.40	24.00	33.60	41.40	61.20	102.00	170.40	294.00



1710 N



1711 N

**MUELLER EXTRA STRAIGHT WAY PATENT CAP STOP AND STOP AND WASTE COCKS,
PLATE 1710 N AND PLATE 1711 N**

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Stops, iron pipe, rough, per dozen...	\$20.40	\$21.00	\$29.40	\$36.00	\$52.80	\$89.40	\$149.40	\$258.00
Stop and wastes, iron pipe, rough per dozen	21.00	21.60	30.00	36.60	54.00	91.20	152.40	264.00



1712 N



1713 N

**MUELLER EXTRA SOCKET HEAD STOP AND STOP AND WASTE COCKS,
PLATE 1712 N AND PLATE 1713 N**

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Stop, iron pipe, rough, per dozen...	\$20.40	\$21.00	\$29.40	\$36.00	\$52.80	\$89.40	\$149.40	\$258.00
Stop and wastes, iron pipe, rough, per dozen	21.00	21.60	30.00	36.60	54.00	91.20	152.40	264.00



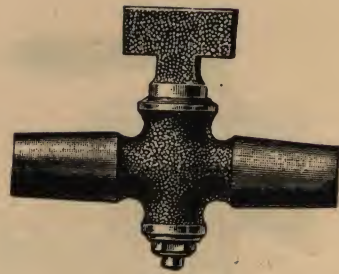
1714 N



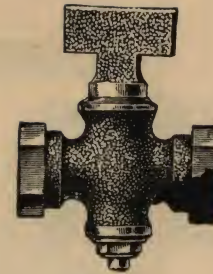
1715 N

**KONGO HIGH-GRADE PATENT CAP STOP AND STOP AND WASTE COCKS,
PLATE 1714 N AND PLATE 1715 N**

Size, inches	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Stop, iron pipe, rough, per dozen.....	\$21.00	\$29.40	\$36.00	\$52.80	\$89.40	\$149.40	\$258.00
Stop and wastes, iron pipe, rough, per dozen...	21.60	30.00	36.60	54.00	91.20	152.40	264.00



1716 N



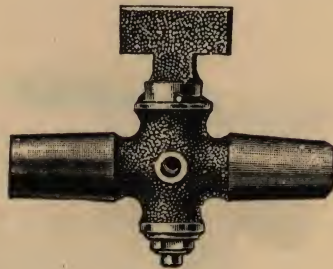
1717 N

"T" HANDLE ROUGH STOP, PLATE 1716 N

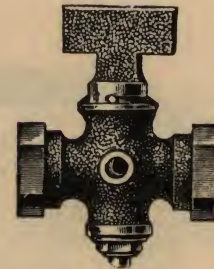
Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, rough, per dozen..	\$22.20	\$22.80	\$23.40	\$33.00	\$40.80	\$60.00	\$100.20	\$167.40	\$288.00

"T" HANDLE ROUGH STOP, PLATE 1717 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, rough, per dozen..	\$19.80	\$20.40	\$21.00	\$29.40	\$36.00	\$52.80	\$89.40	\$149.40	\$258.00



1718 N



1719 N

"T" HANDLE ROUGH STOP AND WASTE, PLATE 1718 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, rough, per dozen.	\$22.80	\$23.40	\$24.00	\$33.60	\$41.40	\$61.20	\$102.00	\$170.40	\$294.00

"T" HANDLE ROUGH STOP AND WASTE, PLATE 1719 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, rough, per dozen..	\$20.40	\$21.00	\$21.60	\$30.00	\$36.60	\$54.00	\$91.20	\$152.40	\$264.00



1720 N



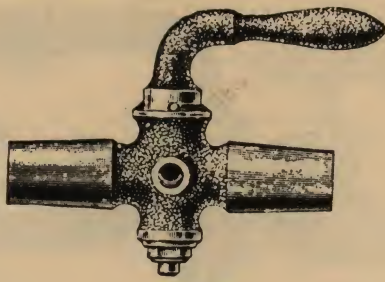
1721 N

ROUGH LEVER HANDLE STOP, PLATE 1720 N

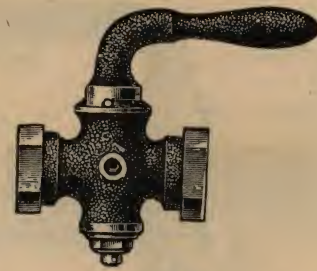
Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, rough, per dozen.	\$22.20	\$22.80	\$23.40	\$33.00	\$40.80	\$60.00	\$100.20	\$167.40	\$288.00

ROUGH LEVER HANDLE STOP, PLATE 1721 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, rough, per dozen..	\$19.80	\$20.40	\$21.00	\$29.40	\$36.00	\$52.80	\$89.40	\$149.40	\$258.00



1722 N



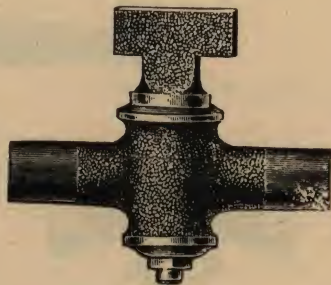
1723 N

ROUGH LEVER HANDLE STOP AND WASTE, PLATE 1722 N

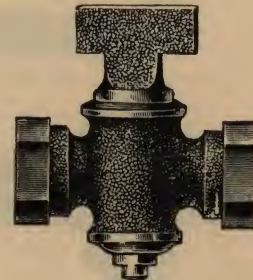
Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, rough, per dozen.	\$22.80	\$23.40	\$24.00	\$33.60	\$41.40	\$61.20	102.00	\$170.40	\$294.00

ROUGH LEVER HANDLE STOP AND WASTE, PLATE 1723 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, rough, per dozen.	\$20.40	\$21.00	\$21.60	\$30.00	\$36.60	\$54.00	\$91.20	\$152.40	\$264.00



1724 N



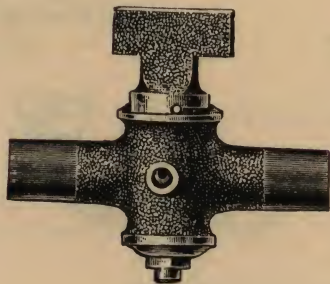
1725 N

ROUGH "T" HANDLE ROUND-WAY STOP, PLATE 1724 N

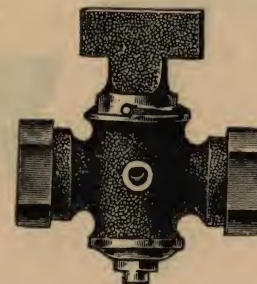
Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, rough, per dozen.	\$26.40	\$27.60	\$28.80	\$39.60	\$51.00	\$81.00	\$131.40	\$215.40	\$372.00

ROUGH "T" HANDLE ROUND-WAY STOP, PLATE 1725 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, rough, per dozen.	\$24.00	\$25.20	\$26.40	\$36.00	\$46.20	\$73.80	\$120.60	\$197.40	\$342.00



1726 N



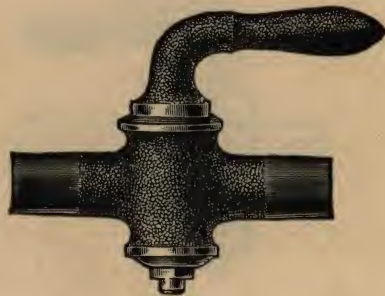
1727 N

ROUGH "T" HANDLE ROUND-WAY STOP AND WASTE, PLATE 1726 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, rough, per dozen.	\$27.00	\$28.20	\$29.40	\$40.20	\$51.60	\$82.20	\$133.20	\$218.40	\$378.00

ROUGH "T" HANDLE ROUND-WAY STOP AND WASTE, PLATE 1727 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, rough, per dozen.	\$24.60	\$25.80	\$27.00	\$36.60	\$46.80	\$75.00	\$122.40	\$200.40	\$348.00



1728 N



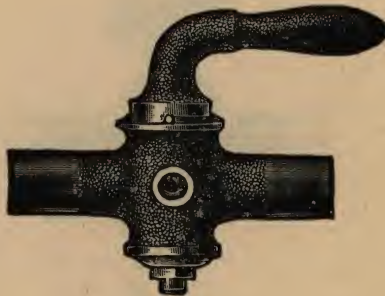
1729 N

ROUGH LEVER HANDLE ROUND-WAY STOP, PLATE 1728 N

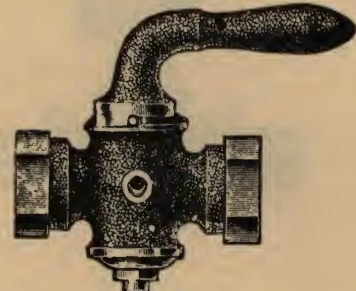
Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, rough, per dozen.	\$26.40	\$27.60	\$28.80	\$39.60	\$51.00	\$81.00	\$131.40	\$215.40	\$372.00

ROUGH LEVER HANDLE ROUND-WAY STOP, PLATE 1729 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, rough, per dozen..	\$24.00	\$25.20	\$26.40	\$36.00	\$46.20	\$73.80	\$120.60	\$197.40	\$342.00



1730 N



1731 N

ROUGH LEVER HANDLE ROUND-WAY STOP AND WASTE, PLATE 1730 N

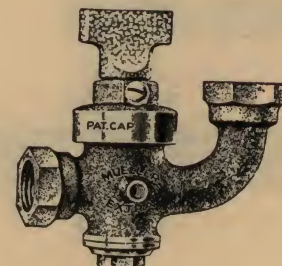
Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Lead pipe, rough, per dozen.	\$27.00	\$28.20	\$29.40	\$40.20	\$51.60	\$82.20	\$133.20	\$218.40	\$378.00

ROUGH LEVER HANDLE ROUND-WAY STOP AND WASTE, PLATE 1731 N

Size, inches	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, rough, per dozen..	\$24.60	\$25.80	\$27.00	\$36.60	\$46.80	\$75.00	\$122.40	\$200.40	\$348.00



1732 N



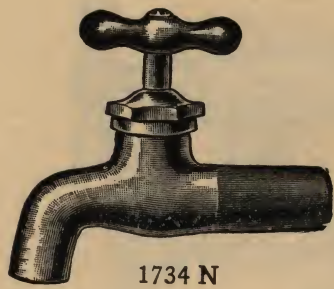
1733 N

ROUGH "T" HANDLE HYDRANT COCK, PLATE 1732 N

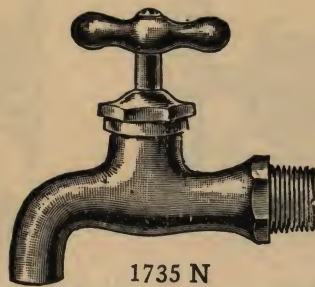
Size, inches	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, per dozen.....	\$25.80	\$36.60	\$45.00	\$64.80	\$103.80	\$170.20	\$288.00

ROUGH PATENT CAP HYDRANT COCK, PLATE 1733 N

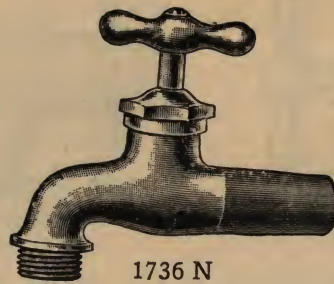
Size, inches	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, per dozen.....	\$25.80	\$36.60	\$45.00	\$64.80	\$103.80	\$170.20	\$288.00



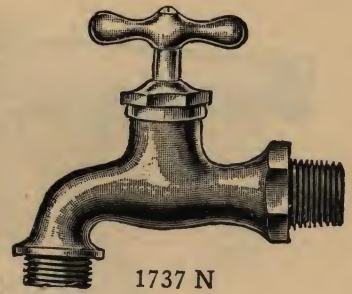
1734 N



1735 N



1736 N



1737 N

COMPRESSION PLAIN BIBBS, LEAD PIPE, PLATE 1734 N

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Lead pipe, rough, per dozen	\$18.00	\$18.60	\$24.60	\$33.00	\$57.60	\$112.20
Lead pipe, finished, per dozen	19.80	21.00	27.00	35.40	63.60	119.40
Lead pipe, nickel plated, per dozen	23.40	24.60	30.60	39.60	69.60	130.20

COMPRESSION PLAIN BIBBS, IRON PIPE, PLATE 1735 N

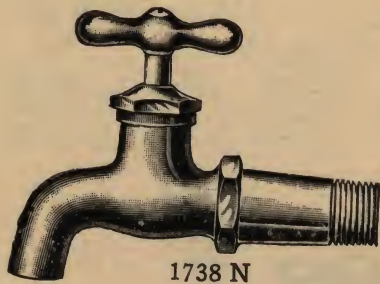
Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Iron pipe, rough, per dozen	\$16.80	\$17.40	\$22.80	\$30.60	\$54.00	\$106.80
Iron pipe, finished, per dozen	18.60	19.80	25.20	33.00	60.00	114.00
Iron pipe, nickel plated, per dozen	22.20	23.40	28.80	37.20	66.00	124.80

COMPRESSION HOSE BIBBS, LEAD PIPE, PLATE 1736 N

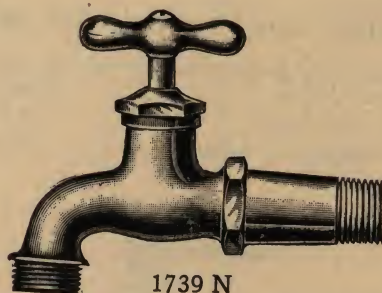
Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Lead pipe, rough, per dozen	\$21.00	\$21.60	\$27.60	\$36.00	\$64.80	\$123.00
Lead pipe, finished, per dozen	22.80	24.00	30.00	38.40	70.80	130.20
Lead pipe, nickel plated, per dozen	26.40	27.60	33.60	42.60	76.80	141.00

COMPRESSION HOSE BIBBS, IRON PIPE, PLATE 1737 N

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Iron pipe, rough, per dozen	\$19.80	\$20.40	\$25.80	\$33.60	\$61.20	\$117.60
Iron pipe, finished, per dozen	21.60	22.80	28.20	36.00	67.20	124.80
Iron pipe, nickel plated, per dozen	25.20	26.40	31.80	40.20	73.20	135.60



1738 N



1739 N



1740 N

COMPRESSION PLAIN BIBBS, S. O. T., PLATE 1738 N

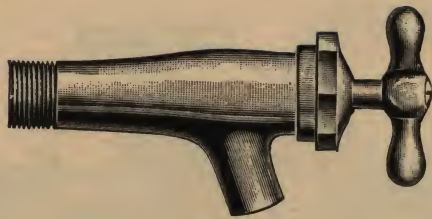
Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Rough, per dozen	\$21.00	\$21.60	\$27.60	\$36.00	\$64.20	\$121.80
Finished, per dozen	22.80	24.00	30.00	39.00	70.20	129.00
Nickel plated, per dozen	26.40	27.60	33.60	43.20	76.20	139.80

COMPRESSION HOSE BIBBS, S. O. T., PLATE 1739 N

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Rough, per dozen	\$24.00	\$24.60	\$30.60	\$39.60	\$71.40	\$132.60
Finished, per dozen	25.80	27.00	33.00	42.00	77.40	139.80
Nickel plated, per dozen	29.40	30.60	36.60	46.20	83.40	150.60

COMPRESSION HOSE BIBBS, S. O. T., PLATE 1740 N

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Rough, per dozen	\$22.20	\$22.80	\$28.80	\$37.80	\$68.40	\$128.40
Finished, per dozen	24.00	25.20	31.20	40.20	74.40	135.60
Nickel plated, per dozen	27.60	28.80	34.80	44.40	80.40	146.40



1759 N



1760 N



1761 N

COMPRESSION WASH TRAY BIBBS, S. O. T., PLATE 1759 N

Size, inches	1/2	5/8	3/4
Finished, per dozen.....	\$22.20	\$28.20	\$37.20
Nickel plated, per dozen.....	25.80	31.80	41.40

COMPRESSION WASH TRAY BIBBS, SOLID FLANGE, PLATE 1760 N AND PLATE 1761 N

Size, inches	1/2	5/8	3/4
Male or female, iron pipe, finished, per dozen.....	\$25.80	\$32.40	\$42.00
Male or female, iron pipe, nickel plated, per dozen.....	29.40	36.00	46.20



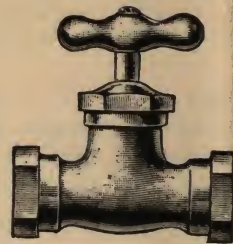
1762 N

COMPRESSION STUB WASH TRAY BIBBS, PLATE 1762 N

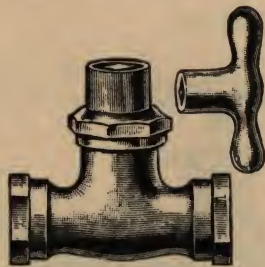
Size, inches	1/2	5/8
Iron pipe, finished, per dozen.....	\$18.60	\$24.00
Iron pipe, nickel plated, per dozen.....	22.20	27.60

COMPRESSION STOP, PLATE 1763 N

Size, inches	3/8	1/2	5/8	3/4	1	1 1/4
Iron pipe, rough, per dozen.....	\$14.40	\$17.40	\$22.80	\$30.60	\$54.00	\$106.80
Iron pipe, finished, per dozen.....	16.20	19.80	25.20	33.00	60.00	114.00
Iron pipe, nickel plated, per dozen...	19.80	23.40	28.80	37.20	66.00	124.80



1763 N



1764 N

COMPRESSION LOOSE-KEY STOP, PLATE 1764 N

Size, inches	3/8	1/2	5/8	3/4	1
Iron pipe, rough, per dozen.....	\$19.20	\$22.80	\$28.80	\$37.80	\$78.00
Iron pipe, finished, per dozen.....	21.00	25.20	31.20	40.20	84.00
Iron pipe, nickel plated, per dozen.....	24.60	28.80	34.80	44.40	90.00



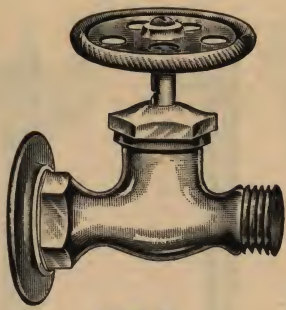
1772 N



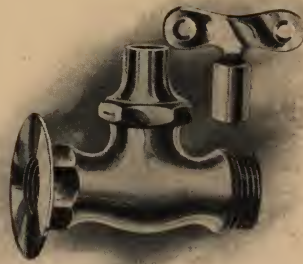
1773 N

MUELLER EXTRA COMPRESSION BIBBS, SOLID FLANGE, PLATE 1772 N AND PLATE 1773 N

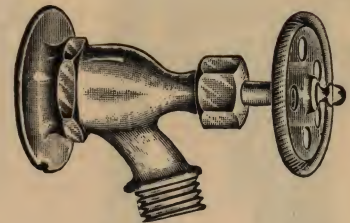
Size, inches	3/8	1/2	5/8	3/4	1
Plain bibbs, female, iron pipe, finished, per dozen.....	\$24.60	\$25.80	\$32.40	\$42.00	\$73.20
Plain bibbs, female, iron pipe, nickel plated, per dozen.....	28.20	29.40	36.00	46.20	79.20
Hose bibbs, female, iron pipe, finished, per dozen.....	27.60	28.80	35.40	45.00	80.40
Hose bibbs, female, iron pipe, nickel plated, per dozen.....	31.20	32.40	39.00	49.20	86.40



1799 N



1800 N



1801 N

COMPRESSION SILL COCKS, PLATE 1799 N AND PLATE 1800 N

Size, inches	1/2	3/4
Rough, nickel plated, per dozen.....	\$37.20	\$37.20
Finished, per dozen.....	37.20	37.20
Nickel plated, per dozen.....	41.40	41.40

COMPRESSION SILL COCK, PLATE 1801 N

Size, inches	1/2	3/4
Rough, nickel plated, per dozen.....	\$33.60	\$33.60
Finished, per dozen.....	33.60	33.60
Nickel plated, per dozen.....	37.80	37.80



1802 N



1804 N



1805 N

MIDGET COMPRESSION SILL COCK, PLATE 1802 N

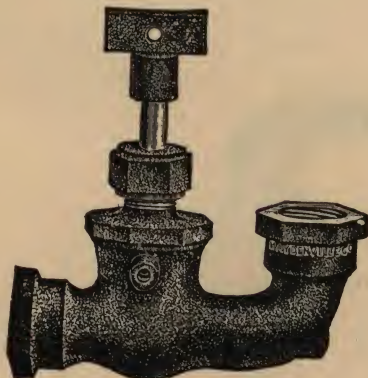
Size, inches	1/2	3/4
Rough, nickel plated, per dozen.....	\$30.00	\$30.00
Finished, per dozen.....	30.00	30.00
Nickel plated, per dozen.....	34.20	34.20

IMPROVED COMPRESSION BALL COCK, PLATE 1804 N

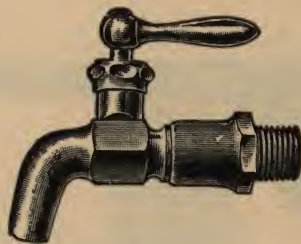
Size, inches	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
Iron pipe, per dozen	\$16.80	\$18.00	\$21.00	\$27.00	\$45.00	\$72.00	\$96.00	\$168.00

COPPER FLOATS FOR COMPRESSION BALL COCKS, PLATE 1805 N

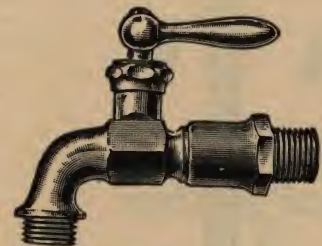
Size float, inches.....	5	6	7	8	9	10	12
For ball cocks, size, inches.....	1/2	5/8	3/4	3/4	1	1 1/4 & 1 1/2	2
Balls only, per dozen.....	\$4.00	\$6.00	\$9.00	\$15.00	\$25.00	\$40.00	\$60.00



1806 N



1813 N



1815 N

COMPRESSION HYDRANT COCK, PLATE 1806 N

Size, inches	1/2	5/8	3/4	1
Iron pipe, per dozen.....	\$36.60	\$47.40	\$58.20	\$96.00

FULLER PLAIN BIBBS, PLATE 1813 N

Size, inches	1/2	5/8	3/4	1
Iron pipe, finished, per dozen.....	\$23.40	\$27.60	\$38.40	\$72.00
Iron pipe, nickel plated, per dozen.....	28.20	32.40	45.60	81.00

FULLER HOSE BIBBS, PLATE 1815 N

Size, inches	1/2	5/8	3/4	1
Iron pipe, finished, per dozen.....	\$27.00	\$31.20	\$42.00	\$80.40
Iron pipe, nickel plated, per dozen.....	31.80	36.00	49.20	89.40



Compression



2379 N

Self-Closing



2380 N

Compression



2381 N

Self-Closing



2382 N

No. 1



2383 N

No. 2



2384 N

No. 5



2385 N

TOTAL ECLIPSE HYDRANTS, PLATE 2379 N AND PLATE 2380 N

Length in ground, feet.....	1½	2	2½	3	4	5	6	8	10
Compression, ¾-inch, each.....	\$ 9.80	\$10.10	\$10.35	\$10.60	\$11.00	\$11.50	\$12.10	\$13.50	\$16.00
Compression, 1-inch, each.....	12.70	13.50	13.90	14.30	14.75	15.30	16.00	18.50	21.00
Self-closing, ¾-inch, each.....	10.80	11.10	11.35	11.60	12.00	12.50	13.10	14.50	17.00
Self-closing, 1-inch, each.....	13.70	14.50	14.90	15.30	15.75	16.30	17.00	19.50	22.00

MURDOCK PATTERN HYDRANTS, PLATE 2381 N AND PLATE 2382 N

Length in ground, feet.....	1½	2	2½	3	4	5	6
Compression, ¾-inch, each.....	\$ 9.00	\$ 9.00	\$10.00	\$10.00	\$11.00	\$12.00	\$13.00
Compression, 1-inch, each.....	11.50	11.50	12.00	12.50	13.50	14.50	15.50
Self-closing, ¾-inch, each.....	11.00	11.00	12.00	12.00	13.00	14.00	15.00

McNAMARA HYDRANTS, PLATE 2383 N TO PLATE 2385 N

Length in ground, feet.....	3	4	5	6	7	8	10
No. 1, for ¾-inch iron pipe, each.....	\$5.40	\$5.80	\$6.30	\$6.90	\$7.25	\$7.75	\$9.00
No. 2, for ¾-inch iron pipe, each.....	3.90	4.30	4.70	5.25	5.75	6.25	7.25
No. 5, for ¾-inch iron pipe, each.....	4.40	4.80	5.25	5.75	6.25	6.75	8.00

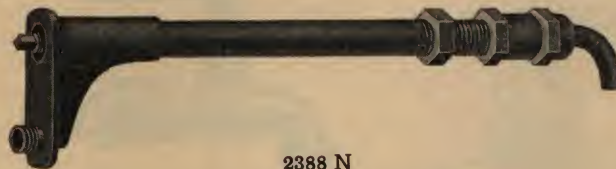
CALIFORNIA YARD HYDRANTS, PLATE 2386 N AND PLATE 2387 N

Length in ground, feet.....	1½
¾-inch pipe and outlet, each.....	\$ 5.00
1 -inch pipe and outlet, each.....	5.50
1¼-inch pipe and outlet, each.....	6.50
1½-inch pipe and outlet, each.....	9.00
2 -inch pipe and outlet, each.....	12.00



2386 N

2387 N



2388 N

WALL HYDRANT, PLATE 2388 N

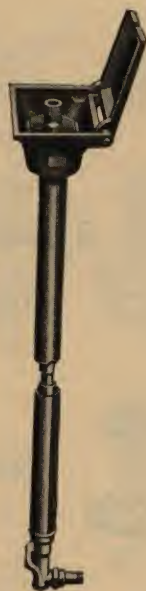
Thickness wall, inches.....	9	13	15	16	18	20	22	24
¾-inch, polished brass face, each.....	\$3.50	\$4.00	\$4.25	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25
¾-inch, nickel plated face, each.....	4.25	4.75	5.00	5.00	5.25	5.50	5.75	6.00



2389 N

WALL HYDRANT (GOVERNMENT PATTERN), PLATE 2389 N

Thickness wall, inches.....	9	13	15	16	18	20	22	24
¾-inch, polished brass face, each.....	\$5.00	\$5.50	\$5.75	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75
¾-inch, nickel plated face, each.....	6.00	6.50	6.75	6.75	7.00	7.25	7.50	7.75



2390 N



2391 N



2392 N



2393 N



2394 N

TOTAL ECLIPSE STREET WASHERS, PLATE 2390 N AND PLATE 2391 N

Length in ground, feet.....	1½	2	2½	3	4	5	6	8	10
Plate 2390 N, ¾-in. connection, each..	\$6.60	\$ 6.85	\$ 7.10	\$ 7.35	\$ 7.75	\$ 8.25	\$ 8.85	\$10.25	\$12.75
Plate 2390 N, 1-in. connection, each..	9.50	10.25	10.70	11.10	11.70	12.00	12.75	15.25	17.75
Plate 2391 N, ¾-in. connection, each..	7.85	8.10	8.35	8.60	9.00	9.50	10.10	11.50	14.00

MURDOCK STREET WASHER, PLATE 2392 N

Length in ground, feet.....	1½	2	2½	3	4	5	6
¾-inch pipe connection, each.....	\$8.00	\$8.00	\$ 8.50	\$ 8.50	\$ 9.50	\$10.50	\$11.50
1-inch pipe connection, each.....	9.00	9.00	10.00	10.00	11.00	12.00	13.00

McNAMARA STREET WASHER, PLATE 2393 N

Length in ground, feet.....	3	4	5	6	8
¾-inch pipe connection, each.....	\$3.90	\$4.30	\$4.70	\$5.25	\$6.25
1-inch pipe connection, each.....	6.00	6.50	7.00	7.50	8.50

CALIFORNIA STREET WASHER, PLATE 2394 N

Length in ground, feet.....	1½
¾-inch pipe connection, each.....	\$3.50
1 -inch pipe connection, each.....	4.00
1¼-inch pipe connection, each.....	5.00
1½-inch pipe connection, each.....	7.50

In ordering street washers always specify if inlet is to be fitted for lead or iron pipe.



2395 N



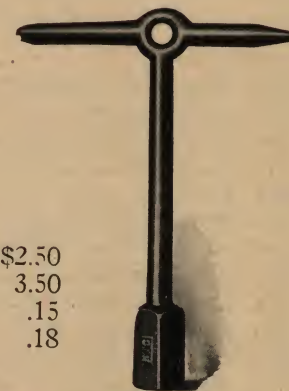
2395½ N

HYDRANT CLAMPS, PLATE 2395 N AND PLATE 23 95½ N

Brass, for ½ or ⅝-inch cock, per dozen.....	\$2.50
Brass, for ¾ or 1-inch cock, per dozen.....	3.50
Malleable iron, for ⅜-inch square rod, per pound.....	.15
Malleable iron, tapped for ⅜ or ½-inch pipe, per pound.....	.18

MALLEABLE IRON STREET WASHER KEYS, PLATE 2396 N

For ⅜-inch square rod, per pound.....	\$0.15
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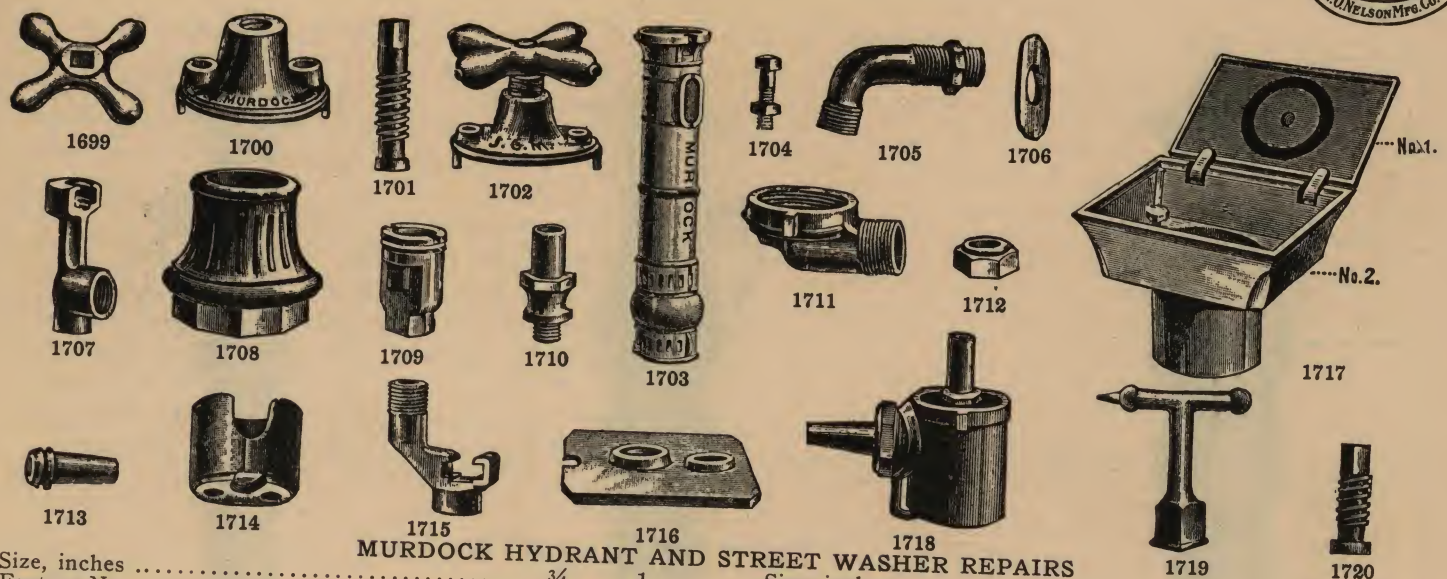


2396 N



TOTAL ECLIPSE HYDRANT AND STREET WASHER REPAIRS

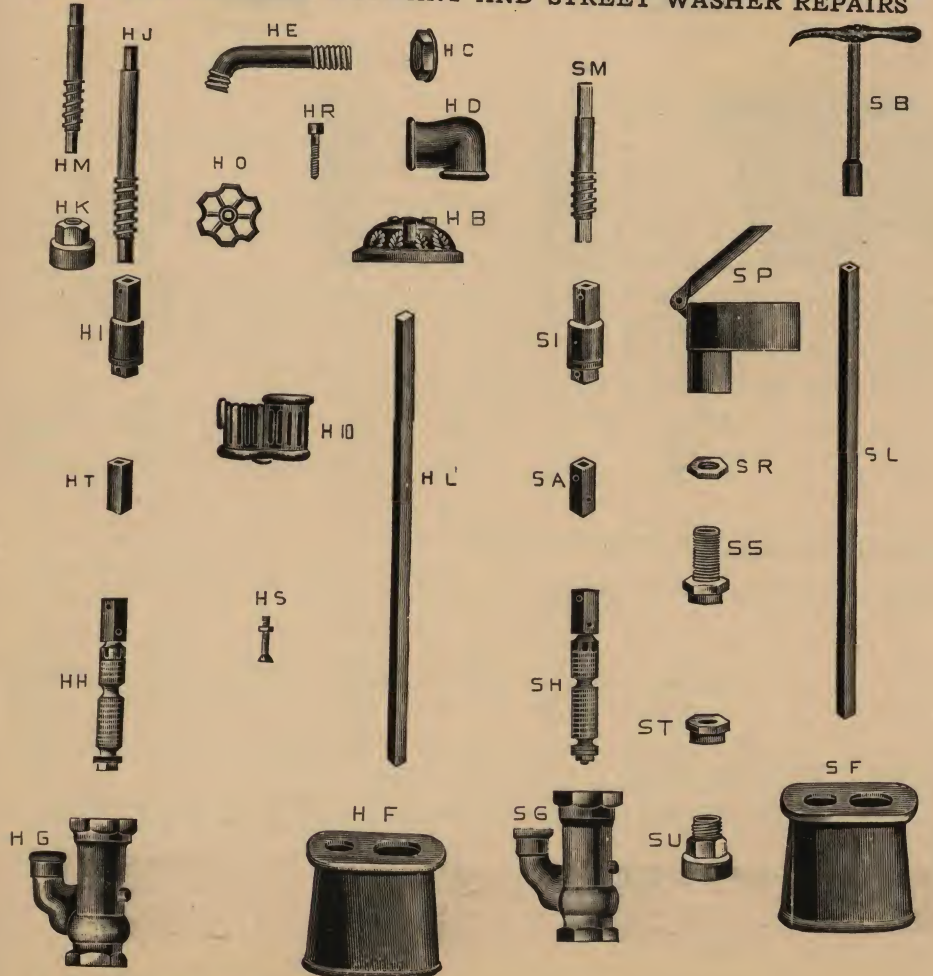
Size, inches	3/4	1	Size, inches	3/4	1
Factory No.	Each	Each	Factory No.	Each	Each
300 Brass valve body.....	\$1.25	\$1.75	327 Small cup washer.....	\$0.10	\$0.10
305 Valve plunger .....	.50	.75	328 Flat washer .....	.06	.06
164 Brass coupling .....	.30	.40	338 Street washer cap.....	.10	.10
115 Sand cup .....	.20	.30	340 Brass nozzle section.....	.50	.50
182 Hydrant casing .....	.60	.75	342 Street washer neck.....	.30	.30
315 Nozzle section .....	.60	.70	334 S. W. plate, complete.....	1.50	1.50
318 Brass nozzle coupling.....	.45	.60	335 Street washer plate .....	.20	.20
320 Brass nozzle .....	.40	.50	330 Street washer box .....	.50	.50
124 Hydrant cap .....	.15	.25	404 Handle, with screws.....	.50	.50
130 Cap, complete .....	.70	1.00	400 Cap and brass connection.....	.50	.50
134 Hydrant handle .....	.20	.20	408 Brass stem .....	.50	.50
137 Hydrant screw .....	.35	.35	415 Steel spring .....	.20	.20
141 Street washer screw.....	.35	.35	418 Half rubber ball.....	.15	.15
325 Large cup washer.....	.15	.20			



MURDOCK HYDRANT AND STREET WASHER REPAIRS

Size, inches	Factory No.	Each	Each	Size, inches	Factory No.	Each	Each
		3/4	1			3/4	1
	1699	Hydrant handle	.....		1711	Bottom connection, brass	.....
	1700	Hydrant top	.....		1711	Bottom connection, iron	.....
	1703	Hydrant stock	.....		1712	Tail coupling nuts, brass	.....
	1704	Bolts and nuts	.....		1712	Tail coupling	.....
	1705	Hydrant nozzle, iron	.....		1713	Tail coupling	.....
	1705	Hydrant nozzle, brass	.....		1714	Shoe	.....
	1706	Hydrant nozzle slides	.....		1715	Street washer stirrup	.....
	1701	Hydrant screw	.....		1716	Street washer plates	.....
	1702	Hydrant top, complete	.....		1717	Street washer lids only	.....
	1710	Valve stems	.....		1717	Street washer tops only	.....
	1707	Hydrant stirrups	.....		1718	Bottoms, complete	.....
	1708	Hydrant bases	.....		1719	S. W. keys, per dozen	.....
	1709	Valve body	.....		1720	S. W. screws, each	.....
		Top for self-closing hydrant	.....			Lever for self-closing hydrant	.....
		Cup leather washer and seat leather, per dozen sets, 3 to set	.....				.....

McNAMARA PATTERN HYDRANT AND STREET WASHER REPAIRS



Factory No.	Description	Price
HA	Post for Fig. 1 hydrant	.....\$1.40
HB	Cap for Fig. 1 hydrant	..... .25
HC	Lock nut for hydrant nozzle	..... .15
HD	Hydrant ell	..... .15
HE	Hydrant nozzle	..... .25
HF	Hydrant valve protector	..... .20
HG	Hydrant valve shell	..... 1.00
HH	Hydrant valve plunger	..... .50
HI	Hydrant swivel	..... .30
HJ	Male screw for Fig. 1 hydrant	..... .30
HK	Female screw for hydrant	..... .35
HL*	Iron rod for hydrant, per foot	..... .15
HM	Male screw for Fig. 2 and Fig. 5 hydrants	..... .30
HN	Post for Fig. 5 hydrant	..... .80
HO	Wheel for hydrant	..... .10
HR	Cap screw for Fig. 1 hydrant	..... .10
HS	Bolt for Fig. 5 hydrant	..... .05
HT	Rod coupling for hydrant	..... .05
H-10	Neck for No. 2 hydrant	..... .40
HV	Hydrant swivel	..... .30
SA	Rod coupling for street washer	.....\$0.05
SB	Key for street washer, per dozen, net	.....
SF	Valve protector for street washer	..... .20
SG	Valve shell for street washer	..... 1.00
SH	Valve plunger for street washer	..... .50
SI	Swivel for street washer	..... .30
SL*	Iron rod for street washer, per foot	..... .15
SM	Male screw for street washer	..... .30
SP	Street washer box	..... .50
SR	Lock nut for hose screw for street washer	..... .15
SS	Hose screw for street washer	..... .25
ST	Packing nut for street washer	..... .25
SU	Female screw for street washer	..... .35
SV	Swivel for street washer	..... .30

(For 3/4-inch Hydrant)

(For 3/4-inch Street Washer)

*State depth of set in ground. Double above list prices for 1-inch parts and specify 1-inch size when wanted.



2415 N



2416 N

NOMCO FIRE HYDRANT, PLATE 2415 N

NOMCO fire hydrant, manufactured in our own shops, possesses advantages to which we invite the careful attention of contractors, corporations or private firms desiring to obtain the best of fire protection.

It is so constructed that by simply removing cap at top of stock, the stem and all its parts can be lifted out for repairs. This hydrant can also be packed under pressure. Has a strong and heavy valve, having a wide bearing so shaped as to insure a constant washing of the valve seat, so long as the flow continues.

It is provided with an arrangement which, while permitting no waste when the valve is open, will allow the water which stands in the barrel of the hydrant after the valve has been closed, to escape through the bottom of the hydrant, leaving the barrel empty and making unnecessary the old-style casing for protection against frost.

Pavement to center of inlet, feet.....	2	2½	3	3½	4	5	6
Hydrant with two 2½-inch nozzles.....	\$29.50	\$30.25	\$31.00	\$31.75	\$32.50	\$34.00	\$35.50
For hydrant with 6-inch inlet, add.....	6.00	6.00	6.00	6.00	6.00	6.00	6.00
For steamer nozzle, add.....	4.00	4.00	4.00	4.00	4.00	4.00	4.00

NOMCO FIRE HYDRANT, PLATE 2416 N

This fire hydrant is of same construction as our Plate 2415 N, except of a lighter pattern, for use in small water-works.

Pavement to center of inlet, feet.....	2	2½	3	3½	4	5	6
Hydrant with two 2½-inch nozzles.....	\$27.00	\$28.00	\$29.00	\$30.00	\$31.00	\$32.00	\$34.00
For hydrant with 6-inch inlet, add.....	5.00	5.00	5.00	5.00	5.00	5.00	5.00

Orders should state whether hydrants are to open by turning to the right or to the left, as we furnish them either way. Unless otherwise ordered, hydrants will be made to turn to the left to open.

Send sample thread hose connection, as there is no standard thread; also specify if hydrants are to have one or two nozzles and if for 2-inch or 2½-inch hose.

For repairs see next page.



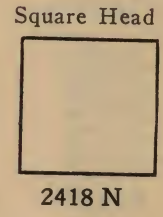
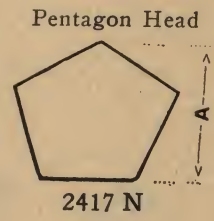
In ordering NONCO fire hydrants, always furnish following information:

- Diameter of hose nozzle.....inches
- Number of threads per inch.....
- State whether one or two hose nozzles.....
- Diameter of steamer nozzle.....inches
- Number of threads per inch.....
- State if valve is to be opened by turning to right or left.....
- Dimensions of pentagon heads at A (see cut).....

(Stock standards are 1¼, 1½ and 1⅝ inches.)

- If square heads are wanted, state size.....
- Inlet for kalamein, wrought, cast pipe (state which).....
- Diameter of inlet pipe.....inches
- Distance from pavement to center of inlet.....

Unless otherwise ordered hydrants will be furnished with 4-inch hub inlet for cast iron water main.



REPAIRS FOR NONCO FIRE HYDRANTS, PLATE 2419 N TO PLATE 2430 N

No. 1.	Top cap, each	\$2.50
No. 2.	Valve complete, each.....	5.00
No. 3.	Brass screw, 1¼-inch, each.....	4.00
No. 3.	Brass screw, 1½-inch, each.....	4.25
No. 4.	Brass valve seat, each.....	2.50
No. 5.	Nozzle cap.....	2.00
No. 6.	Brass stuffing nut, 1¼-inch, each.....	1.00
No. 6.	Brass stuffing nut, 1½-inch, each.....	1.25
No. 7.	Waste valve seat, each.....	3.50
No. 8.	Brass socket, each.....	3.50
No. 9.	Foot valve, each.....	5.00
No. 10.	Valve rubbers, each.....	2.00
No. 11.	Drain valve cup leather, each.....	.20
No. 12.	Brass thread, each.....	.20



2431 N



2432 N



2433 N

KONCO LARGE YARD HYDRANT, PLATE 2431 N

Depth in ground, feet.....	1½	2	2½	3	3½	4	4½	5	6	8	10
With 2-in. inlet and outlet, each..	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$17.25	\$17.50	\$17.75	\$18.25	\$19.00	\$21.00

KONCO LARGE YARD HYDRANT, PLATE 2432 N

Depth in ground, feet.....	1½	2	2½	3	3½	4	4½	5	6	8	10
With 2-in. inlet and outlet, each..	\$15.50	\$15.75	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$17.25	\$17.75	\$18.50	\$20.50

KONCO LARGE YARD HYDRANT, PLATE 2433 N

This hydrant is furnished with two 1¼-inch hose outlets, with one cap and chain.

Depth in ground, feet.....	1½	2	2½	3	3½	4	4½	5	6	8	10
With 2-inch inlet and two 1¼-inch outlets, each.....	\$17.50	\$17.75	\$18.00	\$18.25	\$18.50	\$18.75	\$19.00	\$19.25	\$19.75	\$20.50	\$22.50

KONCO large yard hydrants are of same construction as our standard fire hydrant, and are adapted for use in lumber yards, factories, warehouses and other places requiring fire protection.

Unless otherwise specified these hydrants are furnished with standard iron pipe threads on inlet and outlet. If so desired can be furnished with any special fire hose thread on outlet end. If ordered with special thread always send sample thread.



2396½ N

KONCO SIMPLE SERVICE BOX, PLATE 2396½ N

The KONCO stop box combines all essential features of other best known makes. The cap operates as a dust-proof cover, easily opened without tool or key, but inaccessible to anyone not acquainted with its construction, which fact protects the box against mischievous meddlers.

Number.....	0	1	2	3	4	5
Standard diameter, inches.....	2½	2½	2½	2½	2½	2½
Length, inches.....	15	15 to 24	21 to 30	21 to 36	30 to 48	42 to 60
Each.....	\$0.80	\$0.95	\$1.10	\$1.25	\$1.40	\$1.55

Extra large boxes, 3½ inches diameter, 33 to 48 inches long.....\$2.50



BUFFALO SERVICE BOX FOR GAS AND WATER, PLATE 2397 N

2½-inch Extension Service Boxes.

Number	89 A	90 B	91 C	92 C	92 D	93 D	93 E
Weight, pounds	12	14	17	18	20	21	23
Length, inches	12 to 20	18 to 26	21 to 33	24 to 38	24 to 42	36 to 48	36 to 54
Each	\$0.60	\$0.65	\$0.70	\$0.75	\$0.80	\$0.85	\$0.90
Number	94 D	94 E	95 E	100 E	100 F	100 FX	100 FM
Weight, pounds	24	25	29	31	33	42	45
Length, inches	42 to 57	42 to 60	48 to 66	54 to 72	54 to 78	78 to 102	87 to 111
Each	\$0.95	\$1.00	\$1.10	\$1.15	\$1.20	\$1.50	\$1.60



2397 N

CITY STOP BOX, PLATE 2398 N

Diameter, 3½ inches; length, 2 feet to 3 feet 2 inches; each.....\$1.80

2398 N



2399 N

SPOON KEY, PLATE 2399 N

Each \$1.25



2400 N

STOP BOX KEY, PLATE 2400 N

Each \$0.10



2401 N



2402 N

STOP BOX COVERS, PLATE 2401 N AND PLATE 2402 N

2½-inch, each \$0.15
3 -inch, each15



2403 N

PATENT SERVICE BOX COVER, PLATE 2403 N

For repairing broken Buffalo service box covers.

Each.....\$0.70



2404 N



**ERIE EXTENSION SERVICE BOXES, PLATE 2405 N
AND PLATE 2406 N
For Water and Gas**

Size, Feet.	Extension, Feet.	No. 2. For ½, ¾ and 1-in. Cocks.	No. 3. For 1, 1¼ and 1½-in. Cocks.	No. 4. For 1½ and 2-in. Cocks.	For Minne- apolis Pattern Curb Cocks.
2½	1½ to 2½	\$1.00	\$1.15	\$1.20	\$1.10
3	2 to 3	1.05	1.20	1.30	1.15
3½	2½ to 3½	1.10	1.25	1.40	1.20
4	3 to 4	1.15	1.30	1.50	1.25
4½	3½ to 4½	1.20	1.35	1.60	1.30
5	4 to 5	1.25	1.40	1.70	1.35
5½	4½ to 5½	1.30	1.45	1.80	1.40
6	5 to 6	1.35	1.50	1.90	1.45
7	6 to 7	1.45	1.60	2.10	1.55
7½	6½ to 7½	1.50	1.65	2.20	1.60



2405 N



2406 N



2407 N



2408 N



2409 N

**ROUND HEAD ROADWAY BOXES, PLATE 2407 N
(4¼-inch, with open base.)**

Number	141 Q	142 Q	142 R
Extension	1 ft. 6 in. to 2 ft.	2 ft. 3 in. to 2 ft. 10 in.	2 ft. 3 in. to 3 ft. 6 in.
Weight, pounds	42	47	54
Each	\$3.70	\$4.00	\$4.40
Number	143 R	144 R	145 R
Extension	2 ft. 10 in. to 4 ft.	3 ft. 3 in. to 4 ft. 6 in.	3 ft. 10 in. to 5 ft.
Weight, pounds	60	63	72
Each	\$4.60	\$4.80	\$5.00

**ROUND HEAD ROADWAY BOXES, PLATE 2408 N
(4¼-inch, with flange base.)**

Number	41 Q	42 Q	42 R
Extension	1 ft. 6 in. to 2 ft.	2 ft. 3 in. to 2 ft. 10 in.	2 ft. 3 in. to 3 ft. 6 in.
Weight, pounds	42	47	54
Each	\$3.70	\$4.00	\$4.40
Number	43 R	44 R	45 R
Extension	2 ft. 10 in. to 4 ft.	3 ft. 3 in. to 4 ft. 6 in.	3 ft. 10 in. to 5 ft.
Weight, pounds	60	63	72
Each	\$4.60	\$4.80	\$5.00

**SQUARE HEAD ROADWAY BOXES, PLATE 2409 N
(4¼-inch, with open base.)**

Number	137	142	140 U
Extension	12 in.	16 in.	1 ft. 6 in. to 2 ft.
Each	\$3.30	\$3.50	\$3.70
Number	141 S	142 S	142 T
Extension	1 ft. 9 in. to 2 ft. 7 in.	2 ft. 3 in. to 3 ft.	2 ft. 5 in. to 3 ft. 6 in.
Each	\$3.90	\$4.20	\$4.40

Roadway extensions for 4¼-inch roadway boxes, increasing length 18 inches, each.....\$1.40



VALVE BOXES, PLATE 2410 N

5¼-inch valve box, with No. 6 base, for valves 8 inches and smaller.

Size	Weight	Extension	Price
AAA	68 lbs.	Stationary length, 1 foot 5 inches, each.....	\$5.40
AA	87 lbs.	Extends 1 foot 10 inches to 2 feet 4 inches, each.....	6.20
A	93 lbs.	Extends 2 feet 4 inches to 3 feet 4 inches, each.....	6.50
B	100 lbs.	Extends 3 feet to 4 feet, each.....	6.80
C	106 lbs.	Extends 3 feet 6 inches to 4 feet 6 inches, each.....	7.10
CC	112 lbs.	Extends 4 feet to 5 feet, each.....	7.50
D	115 lbs.	Extends 3 feet 6 inches to 5 feet 6 inches, each.....	7.80
DD	120 lbs.	Extends 4 feet to 6 feet, each.....	8.20
E	125 lbs.	Extends 5 feet to 6 feet, each.....	8.40
No. 8	base for 10-inch valves, add, each.....		.50
No. 16	base for 12 to 16-inch valves, add, each.....		2.50



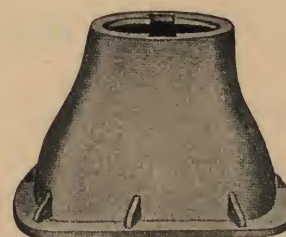
2410 N

No. 6, Round



2411 N

No. 6, Oval



2412 N

ADJUSTABLE VALVE BOX BASES

Description and Dimensions of Bases which can be Furnished with Adjustable Boxes

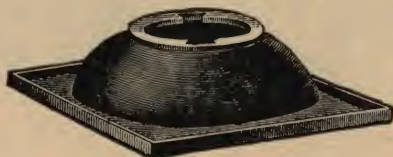
No. 6. Round base, for 6-inch round valves or smaller sizes. This is the standard size, used in quoting lengths and prices. Dimensions inside: diameter at bottom, 14¾ inches; height, 11 inches.

No. 6. Oval base, for 6 and 8-inch oval or round valves. This is the standard size used in quoting lengths and prices. Dimensions inside: diameter at bottom, 15x11½ inches; height, 11 inches.

No. 4. Round base, for 4-inch valves or smaller sizes, reduces price of valve box 25 cents. Dimensions inside: diameter at bottom, 10¾ inches; height, 8 inches. With this base the valve box will be 3 inches shorter than with No. 6 base.

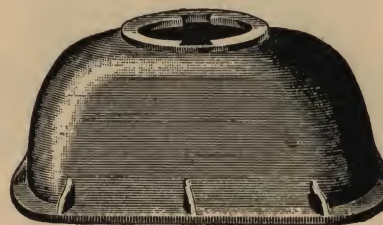
No. 8. Round base, for 8-inch round valves or smaller sizes, increases price of valve box 25 cents. Dimensions inside: diameter at bottom, 17¼ inches; height, 11 inches. With this base the valve box is the same length as with No. 6 base.

No. 140, Round Dome



2413 N

No. 160, Oval



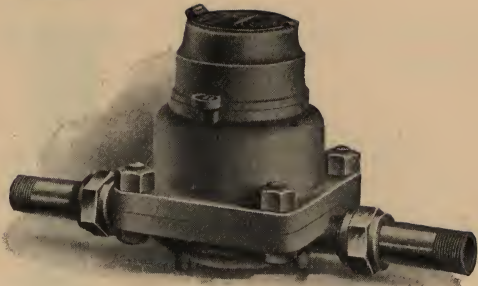
2414 N

No. 16. Round base, for 12 or 16-inch round valves, increases the price of valve box \$1.25. Dimensions inside: diameter at bottom, 24 inches; height, 15¼ inches. With this base the valve box is 4¾ inches longer than with No. 6 base.

No. 140. Round dome base, with flange, 17 inches square. This base is especially adapted for using when valves are set near surface, for any valve up to 24 inches. Reduces length of box 6 inches. Price same as No. 6 base.

No. 160. Oval base, for 16-inch valves or smaller sizes; increases price of valve box 35 cents. Dimensions inside: diameter at bottom, 21x12½ inches; height, 9½ inches. With this base the valve box is 1½ inches shorter than with No. 6 base.

No. 162. Oval base, for 20-inch valves or smaller sizes; increases price of valve box \$1.25. Dimensions inside: diameter at bottom, 26x16 inches; height, 10 inches. With this base the valve box is 1 inch shorter than with No. 6 base.



2434 N



2435 N



2436 N

NEW NIAGARA METER, PLATE 2434 N

Size, inches	5/8	3/4	1	1 1/4	1 1/2	2
Each	\$10.70	\$16.00	\$21.35	\$33.35	\$46.70	\$66.70
Brass couplings, per set.	1.00	1.00	1.35	2.00	2.50	3.35

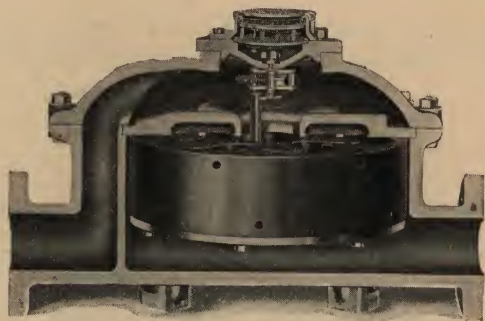
NEW AMERICAN METER, PLATE 2435 N

Size, inches	5/8	3/4	1	1 1/4	1 1/2	2
Bronze top, galvanized base, each	\$12.00	\$18.00	\$24.00	\$37.50	\$52.50	\$75.00
All bronze, each	13.35	20.00	26.70	41.70	58.35	83.35
Brass couplings, per set.	1.00	1.00	1.35	2.00	2.50	3.35
4-foot dial extension					\$2.50	
Per foot longer					.35	
Iron curb box					1.50	

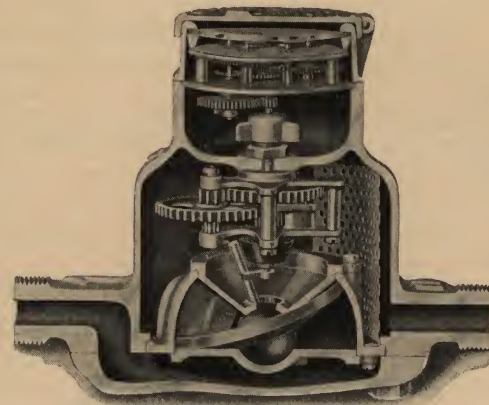
Can furnish above meters with standard or straight reading dial.

WORTHINGTON DISC METER, PLATE 2436 N

Size, inches	5/8	3/4	1	1 1/2	2	3	4	6
Capacity, gallons	15	30	60	90	150	270	540	900
Meter, each	\$10.66	\$16.00	\$21.50	\$41.33	\$61.33	\$130.33	\$253.33	\$523.33
Brass couplings, per set.	.80	1.28	1.60	3.33		No charge		



2437 N



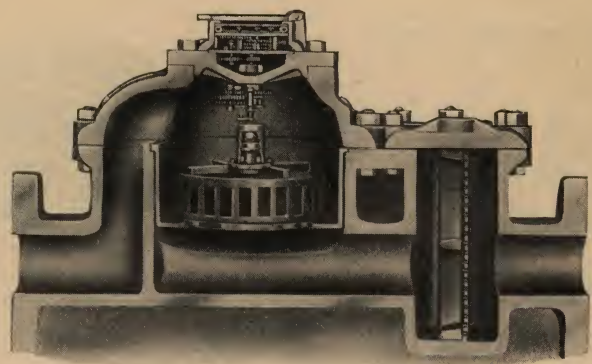
2438 N

HERSEY ROTARY METER, PLATE 2437 N

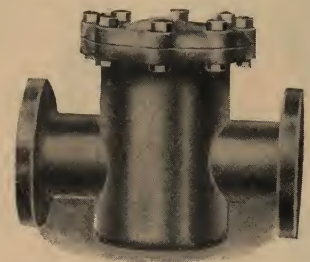
Size, inches	5/8	3/4	1	1 1/2	2	3	4	6
Capacity, gallons	15	30	60	90	150	270	540	900
Each	\$16.00	\$28.00	\$40.00	\$66.67	\$86.67	\$180.00	\$333.33	\$667.00
Connections, per set.	.60	.87	1.10	Furnished with companion flanges, no extra charge				

HERSEY DISC METER, PLATE 2438 N

Size, inches	5/8	3/4	1	1 1/2	2	3	4	6
Capacity, gallons	15	30	60	90	150	270	540	900
Each	\$10.66	\$16.00	\$21.33	\$40.00	\$66.66	\$113.33	\$233.33	\$500.00
Connections, per set.	.60	.87	1.10	.....	.....	.....	.....	.....



2439 N



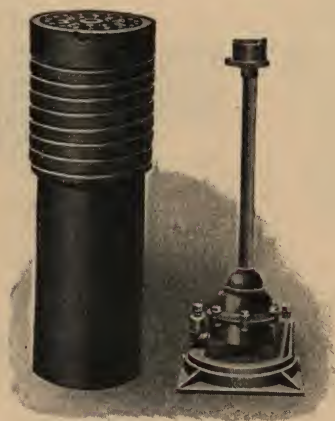
2440 N

HERSEY TORRENT METER, PLATE 2439 N

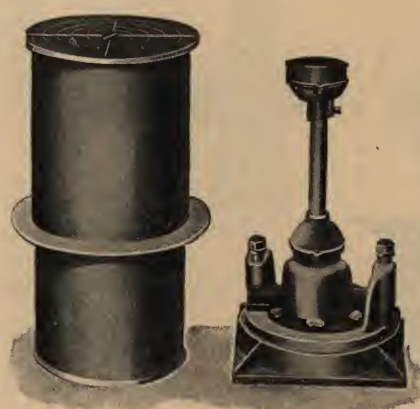
Size, inches	2	3	4	6	8	10	12
Capacity, gallons	240	540	960	2,160	4,125	6,000	7,500
Each	\$53.33	\$106.67	\$213.33	\$466.67	\$800.00	\$1000.00	\$1200.00

POT STRAINER, PLATE 2440 N

Size, inches	3	4	6	8	10	12
Each	\$13.33	\$20.00	\$26.67	\$53.33	\$133.33	\$200.00



2441 N



2442 N



2443 N

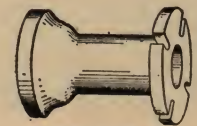
HERSEY METER BOXES, PLATE 2441 N AND PLATE 2442 N

Length, inches	24	36	48	60	72
Plate 2441 N—Size meter, 5/8 inch.....	.....	\$10.00	\$11.67	\$13.33	\$15.00
Plate 2441 N—Size meter, 3/4 inch.....	.....	13.87	15.67	17.47	19.27
Plate 2441 N—Size meter, 1 inch.....	.....	19.14	21.33	23.54	25.74
Plate 2442 N—Size meter, 5/8 inch.....	6.00	.....	.....	.....	.....

Prices on both patterns include special connections.

EXTENSION DIAL FOR HERSEY METERS, PLATE 2443 N

Size, inches	5/8 to 1 1/2	2 and 3	4 to 12
Each	\$2.00	\$2.67	\$4.00
Extension dials over 3 feet in length, add, per foot	\$.28		



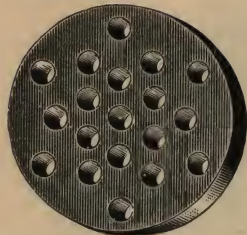
2444 N



2445 N

BELL AND SPIGOT CONNECTIONS, PLATE 2444 N AND PLATE 2445 N

Size, inches	3	4	6
Per set	\$8.00	\$12.00	\$16.00



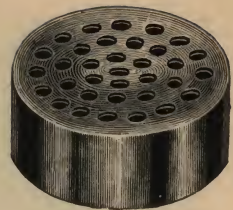
2075 N



2078 N

ROUND SEWER GRATE, PLATE 2075 N

Diameter, inches	2 5/8	3 5/8	4 5/8	5 5/8	6 3/4
For hub on soil pipe, inches	2	3	4	5	6
Each	\$0.10	\$0.12	\$0.15	\$0.20	\$0.25
Diameter, inches	3	4	5 1/8	6 1/4	7 1/2
For hub on sewer pipe, inches	2	3	4	5	6
Each	\$0.08	\$0.10	\$0.15	\$0.20	\$0.30



2077 N

BASKET SEWER GRATE, PLATE 2077 N

For hub on soil pipe, inches	2	4	6
Each	\$0.15	\$0.25	\$0.35

ROUND SEWER GRATE, WITH LEGS, PLATE 2078 N

Diameter, inches	5 1/8	7 1/2
For hub on sewer pipe, inches	4	6
Each	\$0.20	\$0.35

CONDUCTOR STRAINER, PLATE 2086 N

Number	1	2
For soil pipe, inches	2 to 4	5 and 6
Galvanized, per dozen	\$3.50	\$4.50
Copper, per dozen	7.00	9.00



2086 N



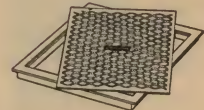
2087 N

METER FRAME AND COVER, PLATE 2087 N

Size, inches	Light 24x24	Medium 24x24	Extra heavy 24x24
Each	\$6.00	\$10.00	\$18.00

CLEAN-OUT FRAME AND COVER, PLATE 2088 N

Size, inches	12x12	15x15
Each	\$2.00	\$2.50



2088 N



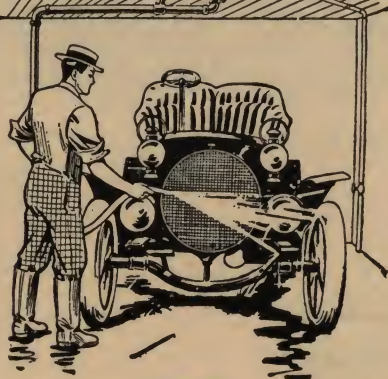
1589 N

UTILITY WASHING DEVICE, PLATE 1589 N

Each \$45.00

The Perfection Buggy Washer

REACHES VEHICLE FROM ALL SIDES
BY HEAVY HOSE TO DRAG
NO VEHICLE TO MOVE



1591 N

PERFECTION VEHICLE WASHER, PLATE 1591 N

With 4 1/2-foot arms, each	\$10.50
With 6-foot arms, each	12.00

Hose not included in price.



1590 N

SUPERIOR WASHING DEVICE, PLATE 1590 N

No. 1 for gas, No. 2 for electricity.
Each \$50.00



2446 N

Stiff-joint brackets, each.....\$0.65



2447 N

Single-swing brackets, each....\$0.85



2448 N

Double-swing brackets, each...\$1.30



2449 N

Triple-swing brackets, each...\$1.85



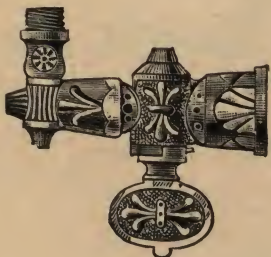
2450 N

Universal two-swing brackets,
each\$1.85



2451 N

Universal three-swing brackets,
each\$2.35



2452 N



2453 N



2454 N



2455 N



2456 N



2457 N



2458 N



2459 N



2460 N



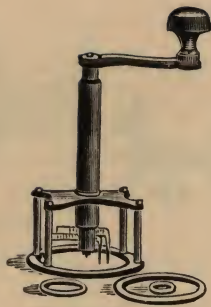
2461 N



2462 N

GAS FIXTURE FITTINGS, PLATE 2452 N TO PLATE 2462 N

Size, inches	1/8	1/4	3/8	1/2	3/8x1/4	3/8x1/8
Plate 2452 N, L burner cocks, per dozen.....	\$4.25	\$4.55	\$5.20	\$6.20	\$....	\$....
Plate 2453 N, independent cocks, per dozen.....	5.50	6.00	6.50	8.00	....	....
Plate 2454 N, hose cocks, per dozen.....	4.55	4.90	5.20	5.55	....	....
Plate 2455 N, pillar cocks, per dozen.....	3.90	4.25	4.55	5.25	....	....
Plate 2456 N, two-light bracket bodies, per dozen.....	....	....	3.90	....	....	....
Plate 2457 N, two-light pendant cocks, per dozen.....	8.45	9.10	10.20	....	9.10	....
Plate 2458 N, straight nozzles, per dozen.....	1.00	1.65	1.95	3.00	....	....
Plate 2459 N, side nozzles, per dozen.....	1.00	1.65	2.30	....	....	....
Plate 2460 N, stiff joints, per dozen.....	1.40	1.50	1.95	3.25	1.85	1.55
Plate 2461 N, brass pillars, per gross.....	....	....	....	\$1.80	....	....
Plate 2462 N, lava tips, per gross.....	....	....	....	....	1.00	....



2463 N

ROSE WASHER CUTTER, PLATE 2463 N

No. 0 cuts	$\frac{3}{8}$ to 2	inches, each.....	\$ 1.15
No. 1 cuts	$\frac{3}{4}$ to $4\frac{1}{2}$	inches, each.....	3.75
No. 2 cuts	1 to 10	inches, each.....	10.00
No. 3 cuts	$4\frac{1}{2}$ to 21	inches, each.....	23.00
No. 4 cuts	6 to 36	inches, each.....	32.00



2465 N

Standard washer cutter, each.....\$0.85



2467 N

TINNERS' SNIPS, PLATE 2467 N

Cuts, inches	.....	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$
Each	.....	\$1.40	\$1.50	\$2.00	\$2.50	\$3.00



2469 N

BOILER RATCHET, PLATE 2469 N

Length of handle, inches.....	10	12	16	
Each	\$9.00	\$10.50	\$16.00

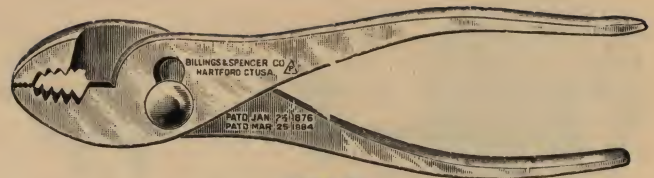
Drills for above ratchets, see page 46.



2470 N

MACHINISTS' BALL PEIN HAMMER, PLATE 2470 N

Numbers	.....	1	2	3	4
Weight without handle, ozs.	.....	6	8	12	16
Length over all, inches.....	.....	12	13	14	14
Per dozen	.....	\$8.50	\$8.50	\$8.50	\$9.00



2464 N

COMBINATION PLIERS, PLATE 2464 N

This tool comprises gas pliers, wire cutters, wrench and screw driver.

Length, inches	.....	6	8	10
Black, per dozen.....	.....	\$13.50	\$16.00	\$18.00
Nickel plated, per dozen.....	.....	15.00	18.00	21.00



2466 N

GAS PLIERS, PLATE 2466 N

Length, inches	....	6	8	10	12	14
Per dozen	.....	\$6.50	\$8.25	\$10.70	\$13.00	\$17.00



2468 N

SLEEVE RATCHET, PLATE 2468 N

Length of handle, inches.....	10	12	16	
Each	.....	\$10.50	\$13.50	\$16.00
Length of handle, inches.....	18	24		
Each	.....	\$19.00	\$23.00	

Drills for above ratchets, see page 46.



2471 N

MACHINISTS' RIVETING HAMMER, PLATE 2471 N

Numbers	.....	1	2	3	4	5
Weight without handle, ozs.	.....	4	7	9	12	15
Length over all, inches	.....	11	12	13	13	14
Per dozen	.....	\$7.00	\$7.50	\$8.00	\$8.50	\$9.00



2472 N

STUB CAULKING CHISEL, PLATE 2472 N

Per dozen\$3.00



2474 N

REGULAR CAULKING CHISEL, PLATE 2474 N

Per dozen\$3.00



2475½ N

YARNING CHISEL, PLATE 2475½ N

Per dozen\$3.00



2476 N

**RIGHT-HAND CAULKING CHISEL,
PLATE 2476 N**

Per dozen\$3.00



2478 N

**LEFT-HAND CAULKING CHISEL,
PLATE 2478 N**

Per dozen\$3.00



2480 N

CORNER YARNING CHISEL, PLATE 2480 N

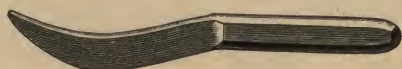
Per dozen\$3.00



2482 N

SPRING PACKING CHISEL, PLATE 2482 N

18 inches long, per dozen.....\$6.00



2484 N

PICKING CHISEL, PLATE 2484 N

Per dozen\$4.00



2473 N

COLD CHISEL, PLATE 2473 N

Per dozen\$6.00



2475 N

CAPE CHISEL, PLATE 2475 N

Per dozen\$4.00



2477 N

DIAMOND POINT CHISEL, PLATE 2477 N

Per dozen\$4.00



2479 N

ROUND NOSE CHISEL, PLATE 2479 N

Per dozen\$4.00



2481 N

WOOD CHISEL, PLATE 2481 N

All-steel, 1 inch, per dozen.....\$3.80



2483 N

FLOOR CHISEL, PLATE 2483 N

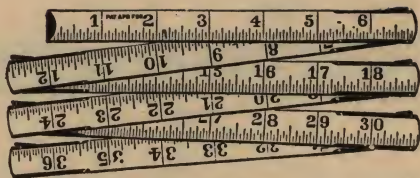
1½-inch, per dozen.....\$ 6.00
 2 -inch, per dozen..... 8.00
 2½-inch, per dozen..... 11.00
 3 -inch, per dozen..... 12.00



2485 N

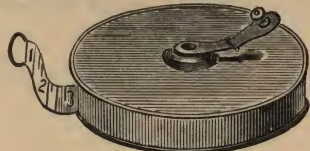
FIRMER CHISEL, PLATE 2485 N

Size, inches½-¾ 1 1¼
 Per dozen\$4.50 \$6.00 \$7.00



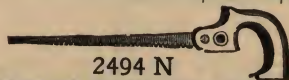
2485A N
FOLDING RULES, PLATE 2485A N

Length, feet	3	4	5	6	8
Folds	6	8	10	12	16
Enameled yellow, per doz.	\$3.30	\$4.00	\$5.30	\$6.30	\$8.50
Enameled white, per doz.	3.50	4.50	5.70	6.90	8.80



2487 N
MEASURING TAPE, PLATE 2487 N

Length, feet	25	50	75	100
Each	\$0.40	\$0.45	\$0.65	\$0.75

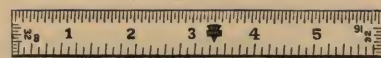


2494 N
COMPASS SAW, PLATE 2494 N

12-inch, each\$0.40

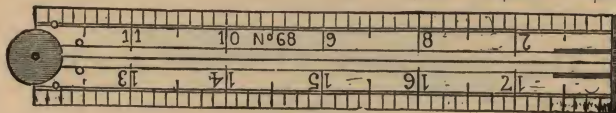


2507 N
FILES, PLATE 2507 N



2485B N
STEEL RULES, PLATE 2485B N

Length, inches	4	6	9	12
Width, inches	5/8	3/4	1	1
Per dozen	\$7.50	\$11.00	\$16.00	\$20.00



2487 1/2 N

POCKET RULE, PLATE 2487 1/2 N

2-foot, 4-fold, each.....\$0.30



2495 N

METAL-CUTTING SAWS, PLATE 2495 N

Number	1	2
Length of cut, inches	18	20
Teeth to the inch	15	15
Each	\$2.00	\$2.40



2508 N

RASPS, PLATE 2508 N

LIST OF NOV. 1, 1899.

As Adopted by the File Manufacturers' Association of the United States, Nov. 1, 1899.

PRICE PER DOZEN

INCH	MILL AND ROUND			FLAT			INCH	SQUARE			HAND AND PILLAR			INCH	HLF. RD. & THREESQ.			WARDING		
	Bastard	2d Cut	Smooth	Bastard	2d Cut	Smooth		Bastard	2d Cut	Smooth	Bastard	2d Cut	Smooth		Bastard	2d Cut	Smooth	Bastard	2d Cut	Smooth
4	\$ 3.00	\$ 3.50	\$ 3.90	\$ 3.70	\$ 4.30	\$ 4.70	4	\$ 3.80	\$ 4.60	\$ 4.90	\$ 3.70	\$ 4.30	\$ 4.80	4	\$ 4.80	\$ 5.60	\$ 6.10	\$ 4.00	\$ 4.80	\$ 5.40
5	3.20	3.80	4.10	3.90	4.60	4.90	5	4.10	4.80	5.30	3.90	4.70	5.30	5	5.40	6.10	6.40	4.50	5.30	5.80
6	3.50	4.00	4.50	4.30	4.80	5.30	6	4.60	5.10	5.50	4.30	5.10	5.60	6	6.10	6.70	7.10	4.90	5.90	6.40
7	3.90	4.60	4.90	4.80	5.50	6.10	7	5.10	5.80	6.30	4.90	5.80	6.30	7	7.00	7.70	8.20	5.90	6.90	7.50
8	4.30	4.90	5.40	5.30	6.10	6.60	8	5.50	6.30	7.00	5.40	6.30	6.70	8	7.50	8.30	8.90	6.40	7.50	8.20
9	4.90	5.80	6.30	6.30	7.20	7.90	9	6.60	7.70	8.30	6.70	7.80	8.30	9	8.50	9.40	9.90	7.80	9.00	9.90
10	5.60	6.40	7.00	7.00	8.10	8.70	10	7.40	8.50	9.10	7.50	8.70	9.40	10	9.10	10.10	10.70	8.70	10.10	11.00
11	6.70	7.80	8.50	8.60	9.80	10.70	11	9.10	10.40	11.30	9.40	10.90	11.80	11	10.70	11.80	12.70	10.90	12.70	13.70
12	7.50	8.60	9.40	9.70	11.00	12.10	12	10.20	11.50	12.80	10.70	12.30	13.50	12	11.80	13.00	13.90	12.30	14.30	15.40
13	9.40	10.70	11.70	11.80	13.60	14.70	13	12.50	14.30	15.40	13.30	15.20	16.20	13	14.10	15.40	16.60	15.20	17.40	18.70
14	10.70	12.20	13.10	13.30	15.30	16.70	14	13.90	16.10	17.50	15.00	17.00	18.20	14	15.50	17.00	18.30	17.00	19.40	21.00
15	13.10	15.00	16.10	16.00	18.30	20.00	15	16.90	19.20	20.90	17.90	20.60	21.70	15	18.50	20.40	21.70			
16	14.70	16.80	17.90	17.80	20.10	22.30	16	18.70	21.20	23.30	20.10	22.80	24.20	16	20.60	22.50	24.20			
17	18.20	20.20	21.70	21.50	24.20	26.50	17	22.50	25.40	27.50	24.20	27.10	28.60	17	24.70	27.00	28.90			
18	20.20	22.70	24.30	23.90	26.80	29.20	18	25.10	28.20	30.40	26.80	29.90	31.50	18	27.50	29.90	32.00			
19	24.60	27.50	29.40	28.40	31.60	34.60	19	29.70	33.20	35.70	31.90	35.40	37.60	19	32.80	35.70	38.10			
20	27.40	30.70	32.90	31.50	35.30	38.30	20	32.80	36.70	39.30	35.10	39.20	41.60	20	36.20	39.40	42.30			

Mill Blunt, Dbl. Cut, adv. 2 in.	Cant (Blunt) Dbl. Cut, advance 2 in.	Square Blunt, advance 1 in.	Slotting (Blt.), adv. 2 in.	Ginsaw, take Bastard price
Mill Dbl. Cut, " 1 "			Cotter Blunt or Taper, advance 2 in.	Crossing, adv. 2 in.
Mill Narrow Point, " 1 "			Reaper, adv. 1 in. on 2d Cut	Tumbler, " 2 "
Mill Machine, " 1 "				Feather Edge (Blunt) " 2 "
Mill Triangular & Sq., " 1 "				High Back " 2 "
Farmers' Own, adv. on Bast. 1 "				Half Round " 2 "

INCH	MILL One Round Edge			MILL Two Round Edges			INCH	TAPERS		SLIM TAPERS		INCH	FILE RASPS		WOOD RASPS					
	Bastard	2d Cut	Smooth	Bastard	2d Cut	Smooth		Single Cut	Double Cut	Single Cut	Double Cut		Flat	Hlf. Round	Flat	Hlf. Round	Cabinet			
4	\$ 3.40	\$ 3.90	\$ 4.40	\$ 3.80	\$ 4.40	\$ 4.90	3	\$ 2.10	\$ 2.50	\$ 2.10	\$ 2.50	6	\$ 7.40	\$ 8.10	\$ 7.40	\$ 8.10	\$10.10			
5	3.60	4.30	4.60	4.00	4.80	5.10	3 1/2	2.10	2.50	2.10	2.50	7	8.60	9.30	8.60	9.30	11.70			
6	3.90	4.50	5.10	4.40	5.00	5.60	4	2.20	2.90	2.20	2.60	8	9.40	10.10	9.40	10.10	12.80			
7	4.40	5.20	5.50	4.90	5.80	6.10	4 1/2	2.40	3.10	2.30	3.00	9	11.40	12.20	11.40	12.20	15.50			
8	4.80	5.50	6.10	5.40	6.10	6.80	5	2.60	3.50	2.50	3.20	10	12.80	13.70	12.80	13.70	17.50			
9	5.50	6.50	7.10	6.10	7.30	7.90	5 1/2	3.00	4.00	2.90	3.50	11	15.50	16.80	15.50	16.80	20.70			
10	6.30	7.20	7.90	7.00	8.00	8.80	6	3.40	4.70	3.10	3.90	12	17.50	18.70	17.50	18.70	22.80			
11	7.50	8.80	9.60	8.40	9.80	10.60	7	4.30	5.60	3.80	4.50	13	20.90	22.40	20.90	22.40	26.80			
12	8.40	9.70	10.60	9.40	10.80	11.80	8	5.40	6.70	4.50	5.30	14	23.20	24.80	23.20	24.80	29.60			
13	10.60	12.00	13.20	11.80	13.40	14.60	9	6.60	8.10	5.40	6.30	15	27.80	29.70	27.80	29.70	33.90			
14	12.00	13.70	14.70	13.40	15.30	16.40	10	8.10	9.70	6.40	7.50	16	30.80	32.90	30.80	32.90	36.90			
15	14.70	16.90	18.10	16.40	18.80	20.10	11	10.70	12.10	8.30	9.10	17	36.20	38.90	36.20	38.90	42.40			
16	16.50	18.90	20.10	18.40	21.00	22.40	12	12.50	14.70	9.50	11.00	18	40.90	43.60	40.90	43.60	46.90			
17	20.50	22.70	24.40	22.80	25.30	27.10	13	15.90	17.50	12.10	13.10									
18	22.70	25.50	27.30	25.30	28.40	30.40	14	18.20	20.60	13.80	15.40									



2509 N

SCREW DRIVERS, PLATE 2509 N

Length, including handle, inches.....	10	12	14
Each	\$0.30	\$0.40	\$0.50



2511 N

DIVIDERS, PLATE 2511 N

Length, inches	6	8	10	12
Per dozen	\$8.00	\$10.00	\$12.00	\$15.00



2513 N

STANDARD INSIDE CALIPERS, PLATE 2513 N

Length, inches	4	6	8	10	12
Per dozen	\$2.85	\$3.75	\$5.35	\$6.50	\$8.00



2514B N

CONQUEROR SWAGE, PLATE 2514B N

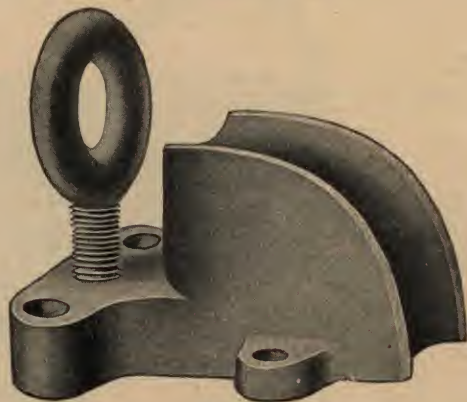
No. 00, with long projecting tongue.....	\$4.00
No. 0, with short projecting tongue.....	3.50
No. 1, for large circular saws.....	3.00
No. 2, for small circular saws.....	2.50
No. 3, for small circular saws.....	2.00



2514C N

MIXTER DUPLEX SWAGE, PLATE 2514C N

No. 3, Duplex swage, largest size, for saws of from 5 to 10 gauge.....	\$7.00
No. 2, Duplex swage, medium size, for saws of from 8 to 12 gauge.....	6.00
No. 1, Duplex swage, for thinner gauges	5.00
No. 0, Duplex swage, for small thin saws.....	4.00



2515 N

PIPE BENDING FORM, PLATE 2515 N

No. 1—Takes pipe 1/8-inch to 1 1/4-inch, each.....	\$3.50
No. 2—Takes pipe 1-inch to 2 -inch, each.....	4.50



2510 N

CHAMPION SCREW DRIVER, PLATE 2510 N

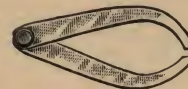
Blade, inches	4	5	6	8	10
Per dozen	\$4.25	\$5.00	\$6.00	\$8.00	\$10.00



2512 N

MIXTER GUMMER CUTTERS, PLATE 2512 N

Size, inches	1/2	3/4	7/8	1	1 1/8	1 1/4
Each	\$0.50	\$0.60	\$0.70	\$0.80	\$0.90	\$1.00



2514 N

STANDARD OUTSIDE CALIPERS, PLATE 2514 N

Length, inches	4	6	8	10	12
Per dozen	\$2.85	\$3.75	\$5.35	\$6.50	\$8.00

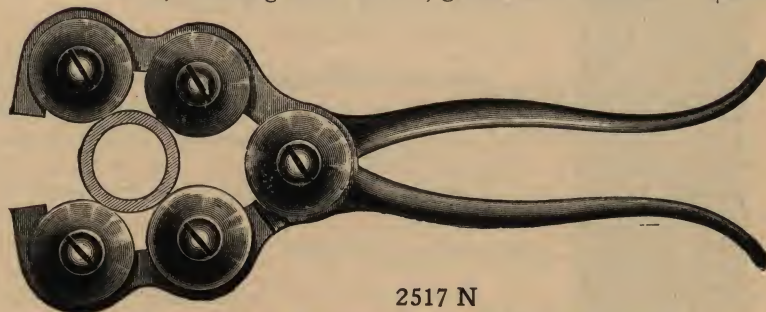


2514A N

MIXTER CHAMPION SAW GUMMERS, PLATE 2514A N

(With Automatic Self-Feed.)

No. 1, including three cutters, grinder and wrench.....	\$30.00
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2517 N

LEAD PIPE CUTTERS, PLATE 2517 N

Nickel plated, each	\$2.50
Japanned, each	2.00



2525 N

ASBESTOS PIPE JOINTER, PLATE 2525 N

- No. 1—Improved, 3/4 inch square, for 2, 3, and 4-inch soil pipe, each.....\$2.50
- No. 2—Improved, 3/4 inch square, for 4, 5 and 6-inch soil pipe, each..... 3.00
- No. 3—Improved, 1 inch square, for 6, 8 and 10-inch water pipe, each..... 4.50
- No. 4—Improved, 1 inch square, for 10, 12 and 14-inch water pipe, each..... 6.00



2529 N

GAS MAIN FORCING PUMP, WITH AIR CHAMBER, PLATE 2529 N

Will stand 200 pounds pressure.

Each \$24.00



2530 N

GAS COMPANIES' DRIP PUMP, PLATE 2530 N

Fitted for attaching 3/4 or 1-inch iron pipe, as ordered, though always fitted for 3/4-inch pipe, unless otherwise specified.

2-inch bore, 12-inch stroke.

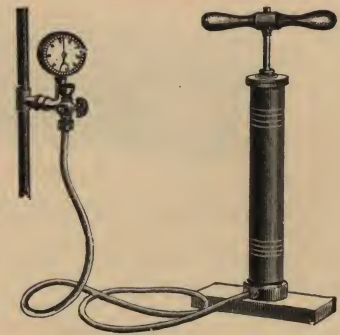
Each\$12.00



2531 N

MERCURY GAUGE, PLATE 2531 N

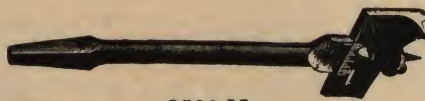
Each \$6.00



2532 N

GAS FITTERS' PROVING PUMP, PLATE 2532 N

- Pump, with spring gauge and hose, complete, each.....\$16.00
- Pump only, each..... 9.00
- Gauge only, each..... 7.00
- Cock and ether cock only, each. 4.00
- Hose, per foot..... .20



2533 N

EXPANSION BIT, PLATE 2533 N

- No. 1—Small size, cuts 1/2 to 1 1/2 inches, each.....\$1.55
- No. 2—Large size, cuts 7/8 to 3 inches, each..... 2.20

PORACO, PLATE 2534 N

Poraco is a patented chemical compound in powdered form for cleaning and keeping closet bowls sanitary.

Per dozen packages.....\$3.50

PORCELA, PLATE 2535 N

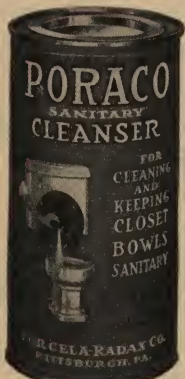
Porcela is a preparation made for cleaning and polishing porcelain enameled iron bath tubs, lavatories, closet bowls, kitchen sinks, laundry trays and other plumbing fixtures. It is made from a mixture of porcelain enamel, is free from grit and is guaranteed not to harm the finest glazed surface of porcelain enamelware.

Per dozen packages.....\$2.00

DESOLVO PIPE CLEANER

Desolvo pipe cleaner is a combination of mineral elements for removing obstructions in drain, waste and water pipes.

Per dozen packages.....\$9.00



2534 N



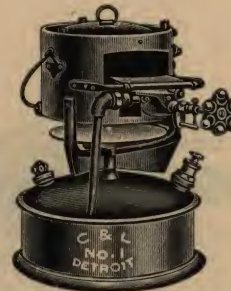
2535 N



2539 N



2540 N



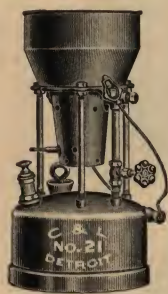
2541 N

GASOLINE TORCHES, PLATE 2539 N AND PLATE 2540 N

- Plate 2539 N—No. 32 torch, automatic brass pump in tank fitted with check valve and provided with removable cork seat. Capacity, one quart, each.....\$5.50
 No. 31, same as above, except without hook and support for holding a soldering copper. Capacity, one quart, each 5.25
- Plate 2540 N—No. 108 torch, with tank made of heavy seamless drawn brass and C. & L. auto brass pump with double springs. Capacity, one quart, each..... 4.25
 No. 107, same as above, except without hook and support on burner. Capacity, one quart, each..... 4.00
 No. 19, same as above. Capacity, one pint, each..... 4.50

FIRE POT, PLATE 2541 N

- No. 1 fire pot. Capacity, seven pints, each..... \$9.00
 No. 5 fire pot. Capacity, five pints, each..... 6.75



2542 N




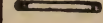


















2543 N

FIRE POT, PLATE 2542 N

- No. 21, with automatic brass pump, each..... \$6.00

PLUMBERS' FURNACE, PLATE 2543 N

- With one shield, each.....\$5.50
 With two shields, each..... 6.00

 EACH .10¢	 EACH .08¢	 EACH 40¢	 EACH 30¢	 EACH .6¢
 EACH 15¢	 EACH 5¢	 EACH 25¢	 EACH 2¢	 EACH 4.5¢
 EACH 30¢	 EACH 6¢	 EACH 1.80	 EACH 35¢	 EACH 50¢
 EACH 5.00	 EACH 2¢	 EACH 20¢	 EACH 8¢	 EACH .05¢

2544 N

REPAIRS FOR FURNACES, PLATE 2544 N



2545 N

POT HOOKS, PLATE 2545 N

- Per dozen\$2.00



2546 N

SOLDER POT, PLATE 2546 N

- | | | | | |
|------------------------------|--------|--------|--------|--------|
| Diameter of top, inches..... | 5 | 6 | 7 | 8 |
| Each | \$0.50 | \$0.65 | \$1.00 | \$1.40 |
| Diameter of top, inches..... | 9 | 10½ | 13½ | |
| Each | \$1.60 | \$2.00 | \$4.00 | |



2547 N

LADLES, PLATE 2547 N

- | | | | | |
|--------------------|--------|--------|--------|--------|
| Size, inches | 2½ | 3 | 3½ | 4 |
| Each | \$0.35 | \$0.40 | \$0.50 | \$0.60 |
| Size, inches | 5 | 6 | 8 | |
| Each | \$0.75 | \$0.90 | \$2.25 | |

Double spout ladles, same list.



2548 N

BREAST DRILL, PLATE 2548 N

Ball-bearing, per dozen.....\$40.00



2549 N

RATCHET BRACE, PLATE 2549 N

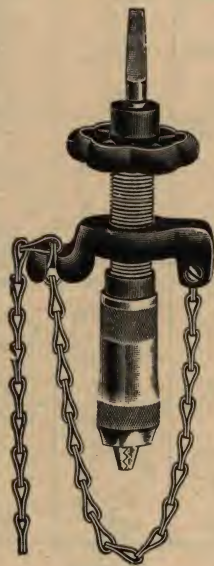
Number	1	2
Sweep, inches	10	12
Each	\$2.25	\$2.50



2550 N

HAND DRILL, PLATE 2550 N

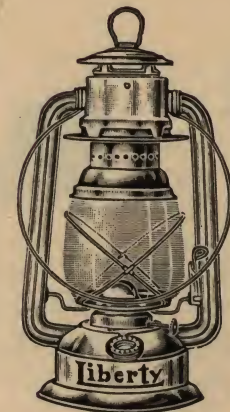
Including 8 fluted points in hollow handle, per dozen..... \$18.00



2551 N

THE WONDER DRILL, PLATE 2551 N

Style C, with chuck, for straight or bit stock drills, each\$2.75
 Drills for above braces, see page 48.



2551 1/2 N

LIBERTY LANTERN, PLATE 2551 1/2 N

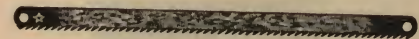
Heavy polished tin. Capacity of oil fount, 1 1/2 pints.
 Per dozen\$17.00



2552 N

LOCK EXTENSION HACK SAW FRAME, PLATE 2552 N

Takes blade from 6 inches to 12 inches, inclusive.
 With one blade, each.....\$1.00



2553 N

HACK SAW BLADE, PLATE 2553 N

Length of blade, from hole to hole, inches	6	7	8	9
Per dozen	\$0.55	\$0.60	\$0.65	\$0.70
Length of blade, from hole to hole, inches	10	11	12	
Per dozen	\$0.85	\$0.95	\$1.05	

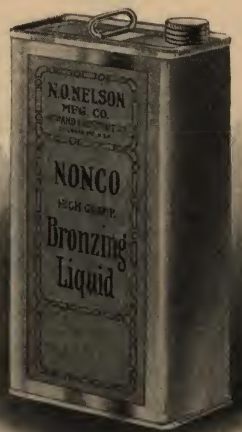


2554 N

REVOLVING CASES, PLATE 2554 N

Poplar wood, cherry stain.

Number	1	2	3	4
With knobs, each.....	\$33.00	\$37.50	\$42.00	\$46.00
With locking device, without keys, add, extra	10.00	10.00	12.50	12.50
With locking device, with keys, add, extra...	12.00	12.00	13.00	13.00
Number of drawers.....	72	80	88	96
Height, inches	33	36	39	42
Width, inches	21	21	24	25



2555 N

BRONZE LIQUID, PLATE 2555 N

Bronze liquid, 1/2-gallon cans, per can.....	\$1.00
Bronze liquid, 1-gallon cans, per can.....	2.00
Primer paint, 1/2-gallon cans, per can.....	2.50
Primer paint, 1-gallon cans, per can.....	4.50

ENAMEL JAPAN AND ASPHALTUM

White bath enamel, 1-gallon cans, per can.....	\$5.00
Maroon japan, 1-gallon cans, per can.....	1.75
Steam fitters' asphaltum, 1-gallon cans, per can...	.75



2558 N

BRONZE, PLATE 2558 N

Pale gold, standard quality, in 1-lb. cans, per lb...	\$0.90
Aluminum, in 1/2-lb. cans, per lb.....	2.00
Copper, in 1-lb. cans, per lb.....	1.50
Emerald, fire and all colors, in packages to suit— not carried in stock, per lb.....	2.50



2556 N

NONCO DIAMOND BLACK PAINT, PLATE 2556 N

For cold iron work. Dries quickly and makes a hard, weather-proof coating, to protect all kinds of iron work.

In 5-gallon packages (tin), per gallon.....\$0.75



2557 N

FIREITE ASBESTOS FURNACE CEMENT, PLATE 2557 N

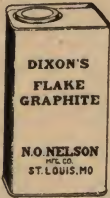
10-pound can, each.....	\$0.75
5-pound can, each.....	.50
2-pound can, each.....	.25
1-pound can, each.....	.15



2559 N

H. O. PIPE JOINT CEMENT, PLATE 2559 N

1 -pound can, per pound.....	\$0.15
5 -pound can, per pound.....	.14
12 1/2-pound can, per pound.....	.12 1/2



2560 N

DIXON FLAKE LUBRICATING GRAPHITE, PLATE 2560 N

1-pound package, per pound.....	\$ 0.25
5-pound can, per can.....	1.25
10-pound can, per can.....	2.50
25-pound box, per box.....	6.25
50-pound box, per box.....	12.50

XONCO GRAPHITE PIPE JOINT PASTE, PLATE 2561 N

For steam, gas and water fittings, graphite is cheaper than red or white lead and more effective. It will resist heat, cold or acids.

Per pound	\$0.20
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2561 N



2562 N

SMOOTH-ON IRON CEMENT, PLATE 2562 N

Especially prepared for repairing leaks or making connections in steam or hydraulic work. Withstands fire and water.

Per pound	\$0.50
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SMOOTH-ON CASTINGS, PLATE 2563 N

For Foundrymen.

This is an iron cement for repairing blemishes, blowholes or defects in iron castings.

Per pound	\$0.50
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SMOOTH-ON JOINTS, PLATE 2564 N

Plumbers' cement, for making joints on cast iron soil pipe in place of lead, and in combination with lead.

Per pound	\$0.50
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2565 N

GUMBO CEMENT, PLATE 2565 N

2-pound can	\$0.25
4-pound can50
8-pound can	1.00
25-pound can	2.75
50-pound can	5.25



2566 N

GAS FITTERS' CEMENT, PLATE 2566 N

5-pound package	\$2.00
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2567 N

PUTTY, PLATE 2567 N

25-pound package	\$2.00
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TAMPER, ASH HANDLE, 4 FEET LONG, PLATE 2568 N

Size, inches	4x4	4x6	5x5	5x7	6x6
Weight, pounds	10	12	12	15	15
Each	\$0.60	\$0.60	\$0.65	\$0.75	\$0.75
Size, inches	6x8	7x7	8x8	9x9	10x10
Weight, pounds	18	18	22	26	31
Each	\$0.90	\$0.90	\$1.00	\$1.15	\$1.35



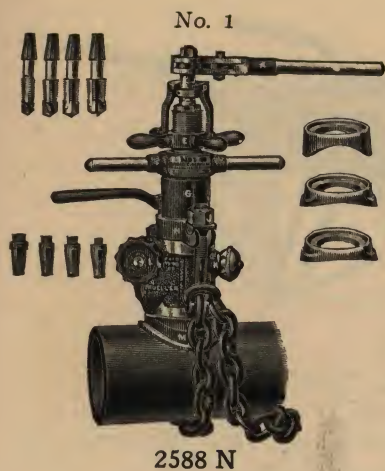
2569 N

ALL-IRON EXTENDABLE TRENCH BRACE, PLATE 2569 N

Length, when closed, inches.....	16	18	21	24	27	30	36	42	48	
With 1½-inch screws and 1½-inch pipe, per dozen.....	\$23.00	\$23.00	\$24.00	\$24.00	\$26.00	\$26.00	\$27.00	\$28.00	\$29.00	2568 N



This brace will extend from 6 to 10 inches, according to length of brace.



2588 N

MUELLER TAPPING MACHINE, PLATE 2588 N AND PLATE 2589 N

A regular outfit comprises, in addition to the machine, the following:

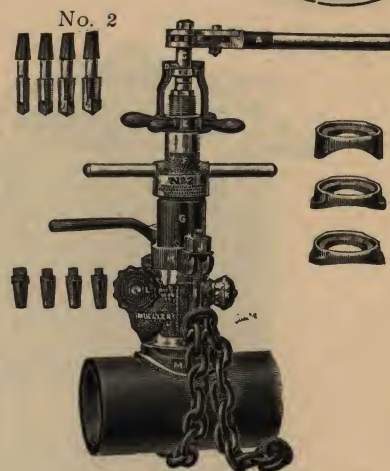
One each, combined drill and tap, 1/2, 5/8, 3/4 and 1 inch.

One each, screw plug, 1/2, 5/8, 3/4 and 1 inch.

Four malleable iron saddles, for 4, 6, 8 and 10-inch pipe.

No. 1, complete, with chain for 4 to 12-inch pipe\$ 90.00

No. 2, complete, with chain for 2 to 12-inch pipe 100.00



2589 N



No. 13

2590 N

MUELLER GAS TAPPING MACHINE, PLATE 2590 N

No. 13, complete, less tools.....\$25.00

COMBINED DRILLS AND TAPS

Size, inches	1/2	5/8	3/4	1
Each	\$4.00	\$4.50	\$5.50	\$6.50



2591 N

MUELLER NIPPLE EXPANDING MACHINE, PLATE 2591 N

Prices on application.



2591 1/2 N

Showing Corporation cock in nipple expanding machine.

FITTINGS AND SUPPLIES

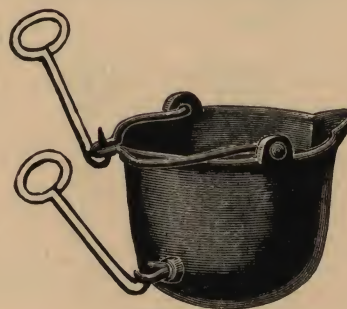
Plugs, screw or hexagon, each.....	\$0.30
Malleable iron saddles, each.....	1.00
7 1/2-inch pure rubber gasket, each.....	1.50
4 1/2-inch pure rubber gasket, each.....	.40



2592 N

XONCO COMBINED FURNACE AND MELTING POT, PLATE 2592 N

Each \$50.00



2594 N

POURING POT, WITH TWO HOOKS, PLATE 2594 N

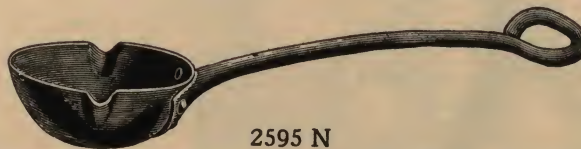
Each \$8.00



2593 N

POURING POT, PLATE 2593 N

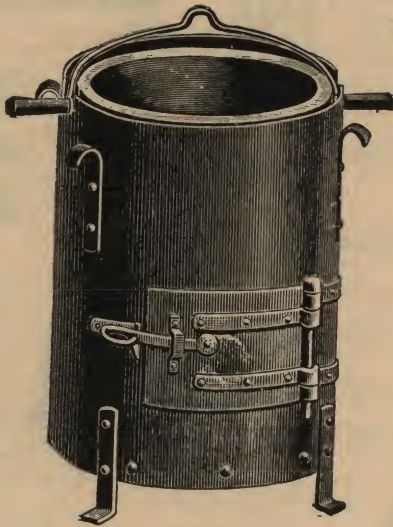
Each \$5.00



2595 N

EIGHT-INCH STEEL LADLE, PLATE 2595 N

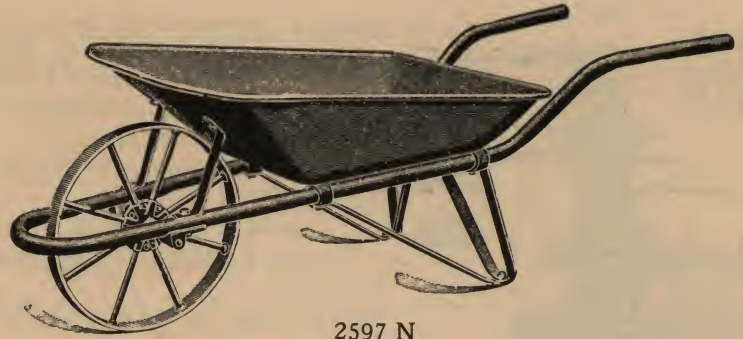
Each \$3.50



2596 N

**LEAD MELTING FURNACE,
PLATE 2596 N**

No. 1—Capacity, 600 lbs. lead. each..\$49.00
No. 2—Capacity, 260 lbs. lead. each.. 42.00



2597 N

**SOLID PRESSED STEEL TRAY BARROWS,
PLATE 2597 N**

A—Barrows have trays 33 inches long, 28 inches wide, 7½ inches deep at wheel, 4½ inches deep at handle; radius of barrow, 20 inches; capacity, 3 cubic feet.

B—Barrows have trays 37 inches long, 30 inches wide, 9½ inches deep at wheel, 5¾ inches deep at handle; radius of barrow, 21½ inches; capacity, 5 cubic feet.

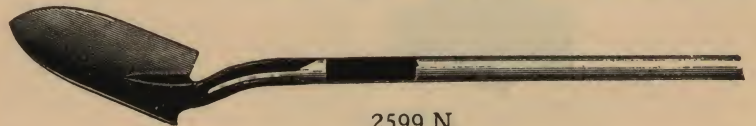
Number	A-4	A-5	A-6	B-4	B-5	B-6
Gauge steel in tray.....	15	14	12	15	14	12
Weight, pounds.....	70	75	85	80	85	100
Each.....	\$6.40	\$7.00	\$7.90	\$7.00	\$7.60	\$8.80



2598 N

D-HANDLE SPADE, PLATE 2598 N

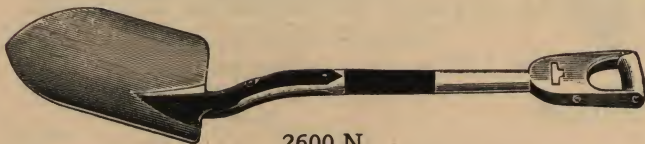
16-inch handle, each.....\$1.25



2599 N

**ROUND POINT, LONG HANDLE DITCH
SHOVEL, PLATE 2599 N**

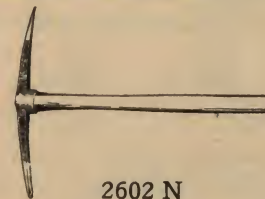
Size blade, 9½x11½ inches, each.....\$1.00



2600 N

**ROUND POINT, SHORT HANDLE DITCH
SHOVEL, PLATE 2600 N**

Size blade, 9½x11½ inches, each.....\$1.10



2602 N

PICK, PLATE 2602 N

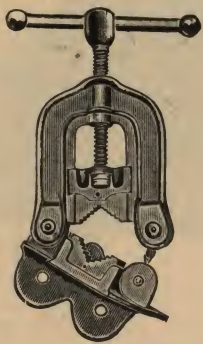
Weight, pick only, 5 pounds, each.....\$1.50

JACK SCREWS, PLATE 2603 N

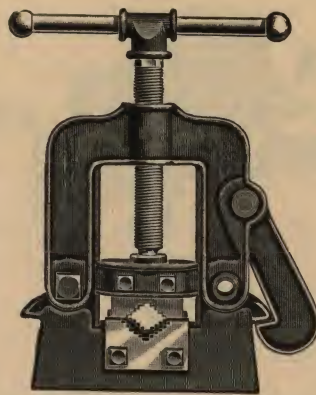


2603 N

Diameter of Screw, inches	Height of Stand, inches	Height over all, inches	Each	Diameter of Screw, inches	Height of Stand, inches	Height over all, inches	Each
1¼	4	6½	\$ 2.90	2	20	24	\$11.50
1¼	6	9	3.10	2	24	28	13.50
1¼	8	11	3.40	2¼	6	10½	7.00
1¼	10	13	3.80	2¼	8	12½	7.50
1½	4	7	3.25	2¼	10	14½	8.25
1½	6	9½	3.75	2¼	12	16½	9.00
1½	8	11½	4.25	2¼	14	18½	10.00
1½	10	13½	4.75	2¼	16	20½	11.00
1½	12	15½	5.25	2¼	18	22½	12.00
1½	14	17½	6.00	2¼	20	24½	13.25
1½	16	19½	6.75	2¼	24	28½	15.75
1¾	6	10	4.50	2½	6	11	7.75
1¾	8	12	5.00	2½	8	13	8.75
1¾	10	14	5.75	2½	9	14	9.25
1¾	12	16	6.25	2½	10	15	9.75
1¾	14	18	6.75	2½	12	17	10.75
1¾	16	20	7.50	2½	14	19	12.00
1¾	18	22	8.50	2½	16	21	13.25
2	6	10	5.25	2½	18	23	14.50
2	8	12	6.00	2½	20	25	15.75
2	10	14	6.75	2½	22	27	17.00
2	12	16	7.50	2½	24	29	18.25
2	14	18	8.25	3	18	23	22.00
2	16	20	9.25	3	20	25	23.25
2	18	22	10.25	3	24	29	25.75



2604 N



2605 N



2606 N

MALLEABLE HINGED VISE, PLATE 2604 N

Number	1	2
Holds pipe, inches.....	$\frac{1}{8}$ to 2	$\frac{1}{8}$ to 3
Weight, pounds	20	26
Each	\$10.00	\$14.00
Extra jaws	1.00	1.50

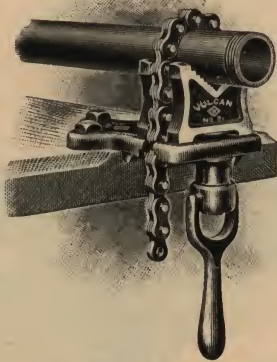
MALLEABLE HINGED VISE, PLATE 2605 N

Number	1-A	2-A
Holds pipe, inches.....	$\frac{1}{8}$ to 2 $\frac{1}{2}$	$\frac{1}{2}$ to 4 $\frac{1}{2}$
Each	\$10.00	\$20.00
Extra jaws	1.50	2.50

SEVEN-POUND STEEL VISE, PLATE 2606 N

For carrying in tool bag.

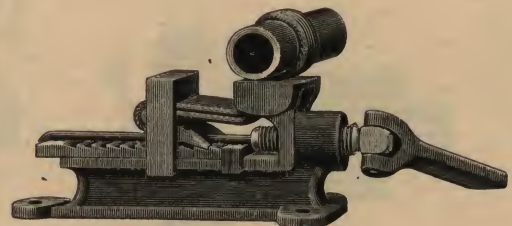
For pipe $\frac{1}{8}$ to 2 inches, each..... \$4.50



2607 N



2608 N



2609 N

VULCAN CHAIN PIPE VISE, PLATE 2607 N

Number	1	2	4
Holds pipe, inches.....	$\frac{1}{8}$ to 2	$\frac{1}{4}$ to 4	$\frac{3}{4}$ to 8
Weight, pounds	4	10	30
Each	\$3.50	\$6.50	\$18.00
Extra jaws, per pair.....	1.20	2.75	7.50

NYE PIPE VISE, PLATE 2608 N

For pipe $\frac{1}{8}$ to 2 inches, each..... \$4.00

WARNOCK STRAP VISE, PLATE 2609 N

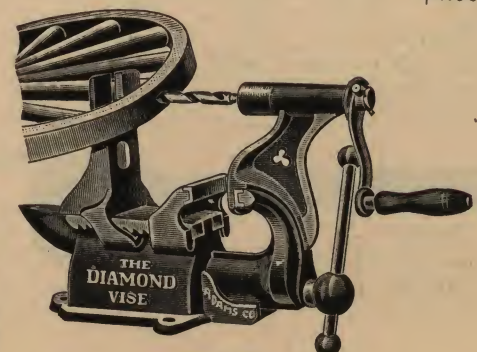
For pipe $\frac{1}{8}$ to 1 $\frac{1}{2}$ inches, each..... \$4.00



2610 N

DIAMOND VISE, PLATE 2610 N AND PLATE 2611 N

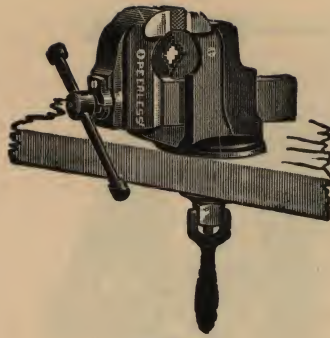
Holds pipe $\frac{1}{8}$ to 2 inches, each.....	\$4.25
Extra for drill attachment.....	2.25



2611 N



2612 N



2613 N



2614 N

HORIZONTAL BENCH VISE, WROUGHT IRON, PLATE 2612 N

5-inch jaws, each..... \$20.00

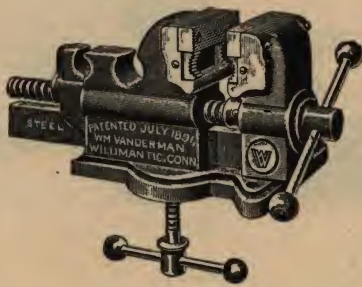
KONGO COMBINATION VISE, PLATE 2613 N

Number	1	2	3	4
Holds pipe, inches	1/8 to 2	1/8 to 3	1/8 to 4	1/8 to 6
Length of vise jaws, inches.....	3 1/2	4	4 1/2	5
Weight, pounds	46	63	116	175
Each	\$16.00	\$20.00	\$28.00	\$35.00
Extra pipe jaws, per set.....	3.50	4.00	5.00	6.00

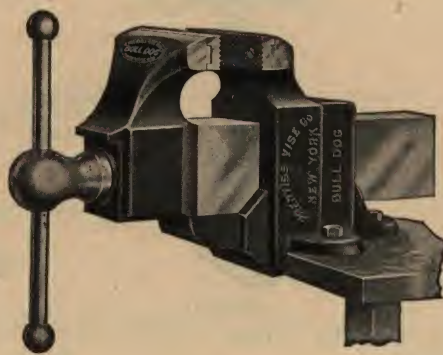
Nos. 1 and 2 have swivel base. Nos. 3 and 4, fixed base.

PRENTISS COMBINATION VISE, PLATE 2614 N

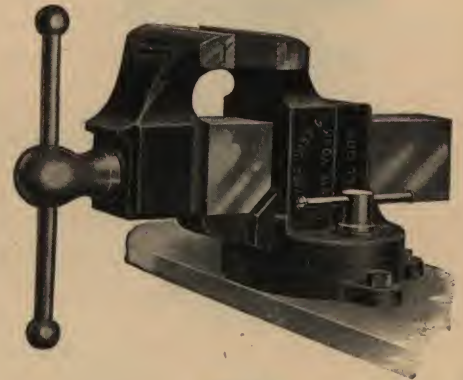
Number	81	82	83	84
Holds pipe, inches	1/8 to 2 1/2	1/8 to 4	1/8 to 6	1/8 to 8
Length of vise jaws, inches.....	3 1/2	4 1/4	5	6
Weight, pounds	35	55	100	172
Each	\$14.00	\$20.00	\$30.00	\$50.00



2615 N



2616 N



2617 N

VANDERMAN COMBINATION VISE, PLATE 2615 N

Number	0	1	3
Holds pipe, inches.....	1/8 to 2 1/2	1/8 to 7	1/8 to 10
With bending form, for bending pipe, each.....	\$15.00	\$20.00	\$30.00

MACHINISTS' "BULLDOG" VISE, PLATE 2616 N

(Stationary bottom.)

Number	50	51	52	53	54	55	56	57
Length of jaws, inches.....	3 1/4	3 5/8	4 1/8	4 5/8	5	5 1/2	6	7
Weight, pounds	22	28	42	52	72	100	135	210
Each	\$6.00	\$7.00	\$8.50	\$10.00	\$13.00	\$18.50	\$25.00	\$37.50

MACHINISTS' "BULLDOG" VISE, PLATE 2617 N

(Swivel bottom.)

Number	90	91	92	93	94	95	96	97
Length of jaws, inches.....	3 1/4	3 5/8	4 1/8	4 5/8	5	5 1/2	6	7
Weight, pounds	28	36	52	64	85	115	155	235
Each	\$7.50	\$8.75	\$10.50	\$12.50	\$16.00	\$22.00	\$30.00	\$42.50



2618 N



2619 N

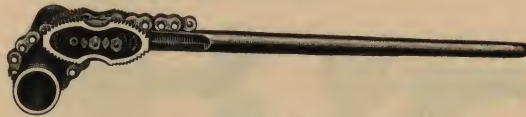
TRIMO WRENCHES, PLATE 2618 N

Length, open, inches.....	6	8	10	14	18	24	36	48
Takes pipe to, inches.....	1/2	3/4	1	1 1/2	2	2 1/2	3 1/2	5
Each	\$2.00	\$2.00	\$2.25	\$3.00	\$4.00	\$6.00	\$12.00	\$18.00
Movable jaws, each.....	.75	.75	.80	1.00	1.33	2.10	4.75	7.25
Nut, each .....	.11	.11	.14	.17	.22	.35	.55	.95
Insert jaws, each.....	.35	.35	.45	.55	.65	.75	1.05	1.35
Frame, each .....	.35	.35	.40	.50	.55	.80	1.30	1.50
Springs, each .....	.03	.03	.03	.03	.04	.04	.04	.04
Pins, each .....	.03	.03	.04	.04	.04	.04	.05	.05

STILLSON WRENCHES, PLATE 2619 N

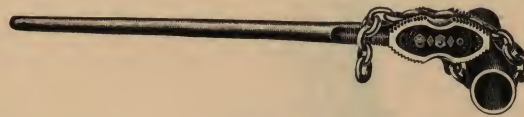
Length, open, inches.....	6	8	10	14	18	24	36	48
Takes pipe to, inches.....	1/2	3/4	1	1 1/2	2	2 1/2	3 1/2	5
Each	\$2.00	\$2.00	\$2.25	\$3.00	\$4.00	\$6.00	\$12.00	\$18.00
Jaws, each .....	.75	.75	.80	1.00	1.33	2.10	4.75	7.25
Frame, each .....	.35	.35	.40	.50	.55	.80	1.30	1.50
Nut, each .....	.15	.15	.20	.20	.22	.35	.55	.95
Wood handles, each.....	.16	.16	.18	.25	.28	...	...	...
Pins, each .....	.03	.03	.04	.04	.04	.04	.05	.05
Springs, each .....	.10	.10	.10	.10	.10	.11	.13	.13

With flat-link chain.



2620 N

With cable chain.



2621 N

VULCAN BIJAW CHAIN PIPE WRENCHES, PLATE 2620 N AND PLATE 2621 N

Size, number	30	31	32	33	33 1/2	34	35
With flat-link chain, each.....	\$2.50	\$3.50	\$5.00	\$7.00	\$9.00	\$11.00	\$18.00
With cable chain, each.....	2.50	3.50	5.00	7.00	9.00	11.00	18.00
Takes pipe, inches.....	1/8 to 3/4	1/8 to 1 1/2	1/4 to 2 1/2	3/4 to 4	1 to 6	1 1/2 to 8	2 to 12
Extra flat-link chains, each.....	\$0.75	\$1.00	\$1.50	\$2.50	\$3.50	\$4.50	\$7.50
Extra cable chains, each.....	.75	1.00	1.50	2.50	3.50	4.50	7.50
Extra jaws, pair	1.00	1.75	2.75	4.00	4.75	5.50	7.50

Flat-link will be sent unless otherwise specified.

MONKEY WRENCHES, PLATE 2622 N

Length, inches	6	8	10	12	15	18	21
Black, per dozen.....	\$ 9.00	\$10.00	\$12.00	\$14.00	\$24.00	\$30.00	\$36.00
Polished, per dozen....	10.00	11.00	14.00	16.00	26.00	32.00	38.00



2622 N



2623 N

IDEAL CHAIN WRENCHES, PLATE 2623 N

Number	2	3	4	5
Capacity, size pipe.....	1/2 to 3 1/2	1 to 5	2 to 8	2 1/2 to 12
Wrench, with cable chain.....	\$6.00	\$8.00	\$11.00	\$16.00
Wrench, with flat chain.....	6.90	9.20	12.65	18.40
Jaws, per pair.....	3.25	4.50	5.85	7.50
Cable chains, each.....	.95	1.20	1.70	3.00
Flat chains, each.....	2.00	3.00	4.00	6.00

WARNOCK WRENCH, PLATE 2624 N

12-inch wrench, for 1/8 to 2-inch pipe, each.....	\$1.50
18-inch wrench, for 1 to 5-inch pipe, each.....	2.50
Extra straps for 12-inch wrench.....	.25
Extra straps for 18-inch wrench.....	.50



2624 N



2625 N

STANWOOD PIPE CUTTER, PLATE 2625 N

Number	1	2	3
Cuts pipe, inches.....	1/8 to 1	3/4 to 2	2 to 3
Each	\$1.50	\$2.25	\$7.00
Wheels, each .....	.12	.18	.25
Block and wheel, each.....	.45	.60	1.25

Number	1	2	3	4	5
Cuts pipe, inches.....	1/8 to 1	1 to 2	2 to 3	2 1/2 to 4	4 to 6
Each	\$3.00	\$4.50	\$11.00	\$18.00	\$28.00
Extra block and wheel, each.....	1.25	1.75	2.75	3.50	4.00
Extra wheels, each .....	.24	.32	.60	.60	.60
Extra rollers, each .....	.24	.32	.50	.60	.60

SAUNDERS ROLLER PIPE CUTTER, PLATE 2626 N



2626 N

TRIMO PIPE CUTTER, PLATE 2627 N



2627 N

Number	1	2	3
Cuts pipe, inches.....	1/8 to 1 1/4	1/2 to 2	1 1/4 to 3
Each	\$4.50	\$6.00	\$10.00
Extra wheels, each .....	.30	.30	.40
Extra rolls, each .....	.30	.30	.40
Extra wheel pins, with cotter pins, per dozen.....	1.00	1.00	1.00
Extra anti-friction washer, per dozen.....	.60	.60	.60
Extra fork block carrier, each.....	.10	.10	.10
Extra nuts, each .....	.35	.35	.40
Extra block, each	1.25	1.25	1.75
Extra frame, each	2.00	2.25	2.50
Extra handle screw, each.....	1.00	1.25	2.00
Extra handles, each .....	.35	.35	.35

BARNES THREE-WHEEL PIPE CUTTER, PLATE 2628 N

Number	1	2	3	4	5	6
Cuts pipe, inches.....	1/8 to 1	1/2 to 2	1 1/2 to 3	2 1/2 to 4	4 to 6	6 to 8
Each	\$4.50	\$6.00	\$10.00	\$20.00	\$30.00	\$40.00
Extra wheels, each .....	.25	.30	.40	.50	.75	.75
Extra pins, each .....	.10	.10	.12	.20	.20	.20



2628 N



2629 N

STRICKLER RATCHET PIPE CUTTER, PLATE 2629 N

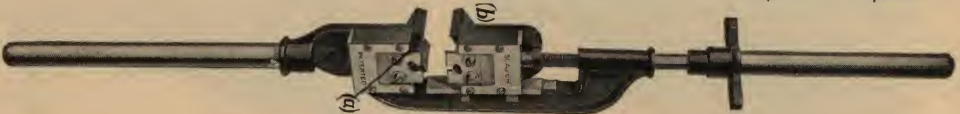
Number	1	2	3
Cuts pipe, inches.....	3/4 to 2	1 1/4 to 4	2 1/2 to 6
Each.....	\$10.00	\$21.87	\$43.75



2631 N

NYE PIPE CUTTER, PLATE 2631 N

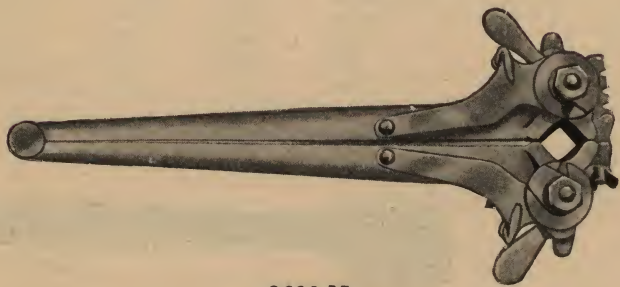
Number	1	2
Cuts pipe, inches.....	1/8 to 1 1/4	1/2 to 2
Each.....	\$3.00	\$4.50



2632 N

BEAVER PIPE CUTTER, PLATE 2632 N

Number	1	5
Cuts pipe, inches.....	1/8 to 1	1/2 to 2
Each	\$18.00	\$20.00



2630 N

VOSPER PIPE CUTTER, PLATE 2630 N

Cuts pipe 1/8 to 2 inches, each.....\$16.00



2633 N

SOIL PIPE CUTTER, PLATE 2633 N

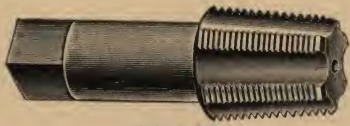
Number	01	1
Cuts pipe, inches.....	4 to 8	4 to 12
Each	\$32.00	\$48.00



2634 N

NYE KNURLED CUTTER WHEEL, PLATE 2634 N

For No. 1 Barnes, each	\$0.50
For No. 2 Barnes, each .....	.60
For No. 4 Barnes, each	1.00
For No. 1 Saunders, each.....	.50
For No. 2 Saunders, each.....	.60
For No. 1 Nye, each .....	.70
For No. 2 Nye, each .....	.80
For No. 1 Trimo, each .....	.60
For No. 2 Trimo, each .....	.60
For No. 3 Trimo, each .....	.90



2635 N



2636 N



2637 N



2638 N

PIPE TAP, PLATE 2635 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$1.12	\$1.25	\$1.50	\$1.87	\$2.50	\$3.12	\$3.75	\$4.62	\$6.25	\$10.50	\$15.00

PIPE REAMER, PLATE 2636 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$1.12	\$1.25	\$1.50	\$1.87	\$2.50	\$3.12	\$3.75	\$4.62	\$6.25	\$10.50	\$15.00

COMBINED PIPE TAP AND DRILL, PLATE 2637 N

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Each	\$2.50	\$2.50	\$3.00	\$4.50	\$6.00	\$7.25	\$8.50	\$10.50

FLAT PIPE DRILL, PLATE 2638 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$0.90	\$0.90	\$0.95	\$0.98	\$1.04	\$1.14	\$1.23	\$1.35	\$1.56	\$1.80	\$2.25



2639 N

BURRING REAMER, PLATE 2639 N

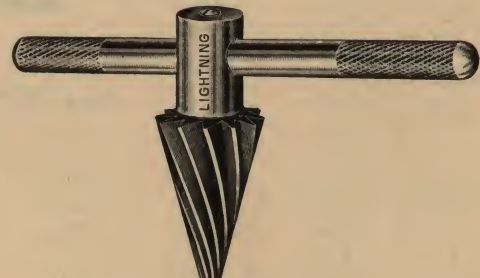
For pipe 1/4 to 1 1/4 inches, each.....\$1.50



2640 N

BURRING REAMER, PLATE 2640 N

For pipe 3/8 to 1 inch, each.....\$1.25
For pipe 1 1/4 to 2 inches, each..... 3.50



2641 N

BURRING REAMER, PLATE 2641 N

For pipe 3/8 to 1 inch, each.....\$1.50
For pipe 1 1/4 to 2 inches, each..... 3.50



2642 N

MUELLER PIPE END REAMERS, PLATE 2642 N AND PLATE 2643 N

Plain handle, each.....\$5.00
Ratchet handle, each..... 7.50



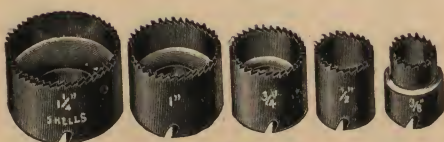
2643 N



2644 N

KONGCO IMPROVED COMBINATION SHELL DRILL, PLATE 2644 N

One stem will take all sizes of shells from 1/8 to 3 inches.



2645 N

SHELLS ONLY, PLATE 2645 N

For iron pipe size, inches....	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Outside diameter	3/4	1 1/16	1 1/8	1 3/8	1 11/16	1 15/16	2 1/16
Each	\$1.75	\$1.75	\$2.25	\$2.50	\$2.75	\$3.00	\$4.00

STEM AND CENTER DRILL ONLY, PLATE 2646 N

Each \$0.75



2646 N



2575 N

TAPER SHANK RATCHET DRILLS, PLATE 2575 N

Diameter, inches	Length, inches	Price Each	Diameter, inches	Length, inches	Price Each	Diameter, inches	Length, inches	Price Each	Diameter, inches	Length, inches	Price Each
1/8	4 1/2	\$0.90	1/2	6 1/2	\$1.30	27/32	7	\$1.90	1 3/8	9	\$4.20
5/32	4 1/2	.95	17/32	6 1/2	1.35	7/8	7 1/2	2.05	1 7/16	9	4.50
3/16	4 1/2	.90	9/16	6 1/2	1.35	29/32	7 1/2	2.20	1 1/2	9	4.80
7/32	5	1.00	19/32	6 1/2	1.40	15/16	8	2.30	1 9/16	9 1/4	5.10
1/4	5	1.00	5/8	6 1/2	1.40	31/32	8	2.40	1 5/8	9 1/4	5.40
9/32	5	1.05	21/32	6 1/2	1.45	1	8 1/2	2.55	1 11/16	9 1/2	5.75
5/16	5	1.10	11/16	6 1/2	1.45	1 1/16	9	2.85	1 3/4	9 1/2	6.10
11/32	5	1.15	23/32	6 1/2	1.50	1 1/8	9	3.10	1 13/16	9 3/4	6.50
3/8	6	1.20	3/4	6 1/2	1.55	1 3/16	9	3.35	1 7/8	9 3/4	6.90
13/32	6 1/4	1.25	25/32	6 3/4	1.65	1 1/4	9	3.65	1 15/16	10	7.30
7/16	6 1/4	1.25	13/16	7	1.75	1 5/16	9	3.90	2	10	7.75
15/32	6 1/4	1.30									

No. 1 shank, 5/8x3/8 inches by 1 1/2 inches long. No. 2, 3/4x1/2 inches by 1 3/4 inches long. No. 1 shank furnished on all sizes unless No. 2 is specified.



2576 N

BLACKSMITHS' TWIST DRILLS, PLATE 2576 N

With 1/2-inch shanks, 2 1/4 inches long.

Diameter, inches	Length, inches	Price Each	Diameter, inches	Length, inches	Price Each	Diameter, inches	Length, inches	Price Each	Diameter, inches	Length, inches	Price Each
1/8	4 7/8	\$0.45	15/32	6	\$0.83	13/16	6	\$1.35	1 5/32	6	\$2.25
5/32	5 1/8	.45	1/2	6	.85	27/32	6	1.40	1 3/16	6	2.30
3/16	5 1/2	.50	17/32	6	.88	7/8	6	1.45	1 7/32	6	2.35
7/32	5 7/8	.55	9/16	6	.90	29/32	6	1.50	1 1/4	6	2.40
1/4	6	.60	19/32	6	.95	15/16	6	1.60	1 9/32	6	2.50
9/32	6	.65	5/8	6	1.05	31/32	6	1.70	1 5/16	6	2.60
5/16	6	.70	21/32	6	1.10	1	6	1.80	1 11/32	6	2.70
11/32	6	.73	11/16	6	1.15	1 1/32	6	1.90	1 3/8	6	2.80
3/8	6	.75	23/32	6	1.20	1 1/16	6	2.00	1 13/32	6	2.90
13/32	6	.78	3/4	6	1.25	1 3/16	6	2.10	1 7/16	6	3.00
7/16	6	.80	25/32	6	1.30	1 1/8	6	2.20	1 1/2	6	3.20



2577 N

DRILLS FITTING BLACKSMITHS' DRILL PRESSES, PLATE 2577 N

Shanks 2 1/4 inches long and about 5/8 inch diameter (exact diameter .647 inch).

Diameter, inches	Length, inches	Price Each	Diameter, inches	Length, inches	Price Each	Diameter, inches	Length, inches	Price Each	Diameter, inches	Length, inches	Price Each
1/8	4 7/8	\$0.55	1/2	6	\$0.95	27/32	6	\$1.40	1 3/16	6	\$2.30
5/32	5 1/8	.58	17/32	6	.98	7/8	6	1.45	1 7/32	6	2.35
3/16	5 1/2	.60	9/16	6	1.00	29/32	6	1.55	1 1/4	6	2.40
7/32	5 3/4	.65	19/32	6	1.03	15/16	6	1.60	1 9/32	6	2.50
1/4	6	.70	5/8	6	1.05	31/32	6	1.70	1 5/16	6	2.60
9/32	6	.73	21/32	6	1.10	1	6	1.80	1 11/32	6	2.70
5/16	6	.75	11/16	6	1.15	1 1/32	6	1.90	1 3/8	6	2.80
11/32	6	.80	23/32	6	1.20	1 1/16	6	2.00	1 13/32	6	2.90
3/8	6	.85	3/4	6	1.25	1 3/16	6	2.10	1 7/16	6	3.00
13/32	6	.88	25/32	6	1.30	1 1/8	6	2.20	1 15/32	6	3.10
7/16	6	.90	13/16	6	1.35	1 5/32	6	2.25	1 1/2	6	3.20
15/32	6	.93									



2578 N

STANDARD INCREASE TWIST DRILLS, PLATE 2578 N

With Morse Taper Shanks.

Standard and Morse taper the same.

Diameter, inches	Length, inches	Price, each	Socket for Standard or Morse Taper	Diameter, inches	Length, inches	Price, each	Socket for Standard or Morse Taper	Diameter, inches	Length, inches	Price, each	Socket for Standard or Morse Taper
1/8	5 1/8	\$0.45	No. 1, \$1.20	47/64	9 3/4	\$1.85	No. 2, \$1.80	1 17/64	14 1/8	\$4.65	No. 4, \$4.00
5/32	5 3/8	.45		3/4	9 3/4	1.85		1 9/32	14 1/8	4.65	
3/16	5 3/4	.50		49/64	9 7/8	2.00		1 19/64	14 1/4	4.80	
7/32	6	.55		25/32	9 7/8	2.00		1 5/16	14 1/4	4.80	
1/4	6 1/8	.60		51/64	10	2.15		1 21/64	14 3/8	5.00	
17/64	6 1/4	.65		13/16	10	2.15		1 11/32	14 3/8	5.00	
9/32	6 1/4	.65		53/64	10 1/4	2.30		1 23/64	14 1/2	5.20	
19/64	6 3/8	.70		27/32	10 1/4	2.30		1 3/8	14 1/2	5.20	
5/16	6 3/8	.70		55/64	10 1/2	2.45		1 25/64	14 5/8	5.40	
21/64	6 1/2	.75		7/8	10 1/2	2.45		1 13/32	14 5/8	5.40	
11/32	6 1/2	.75		57/64	10 5/8	2.60		1 27/64	14 3/4	5.60	
28/64	6 3/4	.80		29/32	10 5/8	2.60		1 7/16	14 3/4	5.60	
3/8	6 3/4	.80		59/64	10 3/4	2.75		1 29/64	14 7/8	5.80	
25/64	7	.85		15/16	10 3/4	2.75		1 15/32	14 7/8	5.80	
13/32	7	.85		61/64	10 7/8	2.90		1 31/64	15	6.00	
27/64	7 1/4	.90		31/32	10 7/8	2.90		1 1/2	15	6.00	
7/16	7 1/4	.90		63/64	11	3.00		1 17/32	15 1/8	6.30	
29/64	7 1/2	.95		1	11	3.00		1 9/16	15 1/4	6.60	
15/32	7 1/2	.95		1 1/64	11 1/8	3.20		1 19/32	15 3/8	6.90	
31/64	7 3/4	1.00		1 1/32	11 1/8	3.20		1 5/8	15 1/2	7.20	
1/2	7 3/4	1.00		1 3/64	11 1/4	3.40		1 21/32	15 5/8	7.50	
33/64	8	1.10		1 1/16	11 1/4	3.40		1 11/16	15 3/4	7.80	
17/32	8	1.10		1 5/64	11 1/2	3.60		1 23/32	15 7/8	8.10	
35/64	8 1/4	1.20		1 3/32	11 1/2	3.60		1 3/4	16	8.40	
9/16	8 1/4	1.20		1 7/64	11 3/4	3.80		1 25/32	16 1/8	8.60	
37/64	8 1/2	1.30	1 1/8	11 3/4	3.80	1 13/16	16 1/4	8.80			
19/32	8 1/2	1.30	1 9/64	11 7/8	4.00	1 27/32	16 3/8	9.00			
			1 5/32	11 7/8	4.00	1 29/32	16 1/2	9.20			
			1 11/64	12	4.20	1 15/16	16 1/2	9.35			
			1 3/16	12	4.20	1 31/32	16 1/2	9.50			
			1 13/64	12 1/8	4.40	2	16 1/2	9.65			
			1 7/32	12 1/8	4.40			9.80			
			1 15/64	12 1/2	4.50						
			1 1/4	12 1/2	4.50						

No. 105



2579 N

STANDARD STRAIGHT SHANK DRILLS, PLATE 2579 N

Jobbers' Sizes.

Diameter, inches	Length, inches	Price, per dozen	Price, each	Diameter, inches	Length, inches	Price, per dozen	Price, each	Diameter, inches	Length, inches	Price, per dozen	Price, each
1/16	2 1/2	\$1.00	\$0.09	7/32	3 3/4	\$2.65	\$0.23	3/8	5	\$5.40	\$0.48
5/64	2 5/8	1.10	.10	15/64	3 7/8	2.90	.26	25/64	5 1/8	5.70	.50
3/32	2 3/4	1.20	.11	1/4	4	3.15	.28	13/32	5 1/4	6.00	.53
7/64	2 7/8	1.30	.12	17/64	4 1/8	3.40	.30	27/64	5 3/8	6.40	.55
1/8	3	1.45	.13	9/32	4 1/4	3.65	.32	7/16	5 1/2	6.80	.59
9/64	3 1/8	1.60	.15	19/64	4 3/8	3.90	.35	29/64	5 5/8	7.20	.63
5/32	3 1/4	1.80	.16	5/16	4 1/2	4.20	.37	15/32	5 3/4	7.50	.65
11/64	3 3/8	2.00	.18	21/64	4 5/8	4.50	.40	31/64	5 7/8	7.75	.67
3/16	3 1/2	2.20	.20	11/32	4 3/4	4.80	.42	1/2	6	8.00	.70
13/64	3 5/8	2.40	.21	23/64	4 7/8	5.10	.45				



No. 108



2580 N

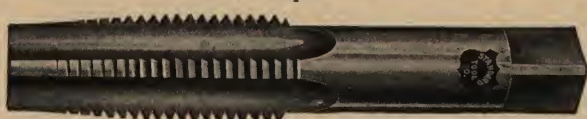
STANDARD BIT STOCK DRILLS, PLATE 2580 N

For Metal or Wood.

Diameter, in.	Length, in.	Price, each	Diameter, in.	Length, in.	Price, each	Diameter, in.	Length, in.	Price, each	Diameter, in.	Length, in.	Price, each
$\frac{2}{32}$	$3\frac{1}{8}$	\$0.14	$\frac{9}{32}$	$5\frac{1}{2}$	\$0.43	$\frac{7}{8}$	8	\$1.95	$\frac{15}{16}$	8	\$2.15
$\frac{3}{32}$	$3\frac{1}{2}$	.16	$\frac{11}{32}$	$5\frac{7}{8}$	.54	$\frac{16}{32}$	7	.87	1	8	2.35
$\frac{4}{32}$	$3\frac{7}{8}$	.20	$\frac{12}{32}$	$6\frac{1}{16}$	.62	$\frac{9}{16}$	$7\frac{5}{8}$	1.20	$\frac{11}{16}$	8	3.00
$\frac{5}{32}$	$4\frac{1}{4}$	.24	$\frac{13}{32}$	$6\frac{1}{4}$	.68	$\frac{5}{8}$	8	1.35	$\frac{11}{8}$	8	3.35
$\frac{6}{32}$	$4\frac{9}{16}$	.29	$\frac{14}{32}$	$6\frac{1}{2}$	.75	$\frac{11}{16}$	8	1.50	$\frac{13}{16}$	8	3.60
$\frac{7}{32}$	$4\frac{7}{8}$	.33	$\frac{15}{32}$	$6\frac{13}{16}$	.82	$\frac{3}{4}$	8	1.65	$\frac{11}{4}$	8	3.75
$\frac{8}{32}$	$5\frac{3}{16}$	.38	$\frac{13}{16}$	8	1.80						

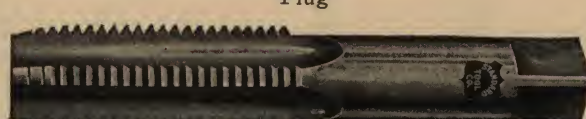
Larger than $\frac{3}{32}$ -inch made with solid shank.

Taper



2581 N

Plug



2582 N

Bottoming



2583 N

MACHINISTS' HAND TAPS, PLATE 2581 N TO PLATE 2583 N

All taps are furnished with standard V threads unless otherwise specified, in which case the goods will be made to order at slight advance in price and some delay.

Diameter, inches	Number of Threads to inch	Price, Each	Price, Per Set	Diameter, inches	Number of Threads to inch	Price, Each	Price, Per Set
$\frac{1}{4}$	16, 18 and 20	\$0.45	\$1.35	$\frac{15}{16}$	9	\$1.80	\$ 5.40
$\frac{5}{16}$	16 and 18	.50	1.50	1	8	2.00	6.00
$\frac{3}{8}$	14, 16 and 18	.55	1.65	$1\frac{1}{8}$	7 and 8	2.25	6.75
$\frac{7}{16}$	15 and 16	.60	1.80	$1\frac{1}{4}$	7	2.60	7.80
$\frac{1}{2}$	12, 13 and 14	.70	2.10	$1\frac{3}{8}$	6	3.00	9.00
$\frac{9}{16}$	12 and 14	.80	2.40	$1\frac{1}{2}$	6	3.50	10.50
$\frac{5}{8}$	10, 11 and 12	.90	2.70	$1\frac{5}{8}$	5 and $5\frac{1}{2}$	4.20	12.60
$\frac{11}{16}$	11 and 12	1.05	3.15	$1\frac{3}{4}$	5	5.00	15.00
$\frac{3}{4}$	10 and 12	1.20	3.60	$1\frac{7}{8}$	$4\frac{1}{2}$ and 5	5.80	17.40
$\frac{13}{16}$	10	1.40	4.20	2	$4\frac{1}{2}$	6.70	20.10
$\frac{7}{8}$	9 and 10	1.60	4.80				



2584 N

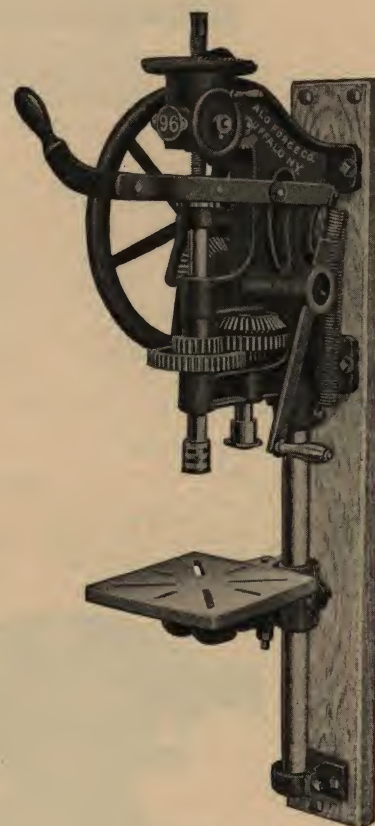
BOILER PATCH BOLT TAPS, PLATE 2584 N

Size, inches	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	1
Each	\$0.70	\$0.80	\$0.90	\$1.05	\$1.20	\$1.40	\$1.60	\$1.80	\$2.00

Unless otherwise ordered, these taps will be furnished 12-thread.



No. 94 and No. 96



2587 N

No. 97 to No. 99



2586 N

No. 145 to No. 152



2585 N

BUFFALO BALL-BEARING DRILLS, PLATE 2585 N TO PLATE 2587 N

Number	Capacity	Length feed, inches	Table adjustment, inches	Each
145	3/4-inch hole to center of 12 -inch circle	3 1/2	9	\$ 6.00
146	3/4-inch hole to center of 12 -inch circle	3	9	7.00
147	1 -inch hole to center of 14 -inch circle	3	13	9.00
148	1 -inch hole to center of 14 -inch circle	3	13	9.50
149	7/8-inch hole to center of 12 -inch circle	3 1/2	9	7.00
150	1 -inch hole to center of 12 -inch circle	3 1/2	9	7.50
151	1 -inch hole to center of 12 -inch circle	3	9	8.50
152	1 1/4-inch hole to center of 14 -inch circle	3	13	10.00
99	1 1/4-inch hole to center of 15 1/2-inch circle	3	12	18.00
98	1 1/4-inch hole to center of 18 -inch circle	3 1/2	14 1/2	25.00
97	1 1/2-inch hole to center of 19 1/2-inch circle	4	12	27.50
96	1 1/2-inch hole to center of 18 -inch circle	4 1/2	18	30.00
94	1 1/2-inch hole to center of 21 -inch circle	4 1/2	21	40.00

No. 145 and No. 149 drills have no fly-wheel.

No. 145, No. 149 and No. 150 drills have hand feed only. All other numbers have fly-wheel and automatic feed for three speeds.

No. 94, No. 96, No. 97, No. 98 and No. 99 have sure-grip chucks for 1/2-inch shanks.



2652 N



2653 N

KONCO DIE PLATE, PLATE 2652 N

Number	0	1	1 1/2	1 3/4	2	3, 2-arm	4, 4-arm
Threads pipe, inches.....	1/8 to 1/2	1/4 to 1	3/4 to 1 1/4	1 to 1 1/2	1 1/4 to 2	2 1/2 to 3	2 1/2 to 3
Dimensions of dies, inches.....	2x2	2 1/2 x 2 1/2	3x3	3x3	4x4	5x5	5x5
Die plate complete, each.....	\$ 9.50	\$15.00	\$13.50	\$13.50	\$20.00	\$43.00	\$51.00
Without dies, each.....	3.50	5.00	6.00	6.00	9.50	25.00	33.00
Extra dies, each	1.50	2.00	2.50	2.50	3.50	9.00	9.00
Extra bushings, each .....	.25	.35	.45	.45	.60	1.00	1.00
Extra die frames, each.....	.....	.30	.40	.40	.50	.60	.60
Extra handles, per set.....	1.90	2.25	2.75	2.75	3.50	10.00	20.00
Extra brass face plates, each.....	.75	.90	1.35	1.35	2.25	3.50	3.50

NYE DIE, FOR KONCO STOCK, PLATE 2653 N

Dimensions of dies, inches.....	2x2	2x2	2x2	2 1/2 x 2 1/2	2 1/2 x 2 1/2	2 1/2 x 2 1/2	2 1/2 x 2 1/2
Threads pipe, inches.....	1/8	1/4 and 3/8	1/2	1/8	1/4 and 3/8	1/2 and 3/4	1
Each	\$2.00	\$2.50	\$3.00	\$2.00	\$2.50	\$3.00	\$3.50
Dimensions of dies, inches.....	3x3	3x3	3x3	3x3	4x4	4x4	5x5
Threads pipe, inches.....	1/8	1/4 and 3/8	1/2 and 3/4	1 and 1 1/4	1 1/2	1 1/2 and 2	2 1/2
Each	\$2.50	\$3.00	\$3.50	\$4.00	\$4.50	\$4.00	\$5.00
						\$13.00	\$14.00



2654 N

BEAVER STOCK No. 25, PLATE 2654 N

Cuts pipe 1 to 2 inches, each.....\$30.00
Extra dies, per set..... 3.50



2655 N

BEAVERETTE STOCK No. 6, PLATE 2655 N

Cuts pipe 1/4 to 3/4 inch, each.....\$15.00
Extra dies, per set..... 3.00



2656 N

TRIO STOCK, PLATE 2656 N

Number	200	201	210	211
Cuts pipe, inches.....	1/8 to 3/8	1/4 to 1/2	3/8 to 3/4	1/2 to 1
Each	\$4.25	\$4.25	\$6.00	\$6.00



2657 N

NYE THREE-WAY STOCK, PLATE 2657 N

Holds 1/2, 3/4 and 1 inch solid dies 2 3/8 inches square.
Each, complete (without dies).....\$5.50



2658 N

WELLS PERFECT THREAD OPEN DIE STOCK, PLATE 2658 N

(For threading brass tubing.)

Complete, No. 50, with one set of 6 chasers with adjustable guide, each.....\$10.00
Extra die chasers, per set of 6..... 4.00



2659 N



2660 N

ARMSTRONG ADJUSTABLE STOCK AND DIE, PLATE 2659 N

Number	1	2	2½	3	6	7
Threads pipe, inches.....	⅛ to ½	¼ to 1	½ to 1¼	1 to 2	2½ and 3	2½ to 4
Complete	\$9.00	\$12.00	\$12.00	\$24.00	\$40.00	\$60.00
Stock only	3.25	4.00	4.50	7.00	25.00	30.00
Extra dies	1.25	1.50	3.25	4.00	15.00	16.00
Extra bushings .....	.20	.25	.40	.50	1.00	1.50

Note.—Nos. 2½, 6 and 7 stocks are fitted with double-end dies. Nos. 1 and 2 stocks are packed in cases. Nos. 6 and 7 have four arms.

NYE DIE, FOR ARMSTRONG STOCK, PLATE 2660 N

For stock number.....	2	2½	3	6
Threads pipe, inches.....	¼ to 1	½ to 1¼	1 to 2	2½ & 3
Each size die.....	\$3.50	\$5.00	\$5.00	\$25.00

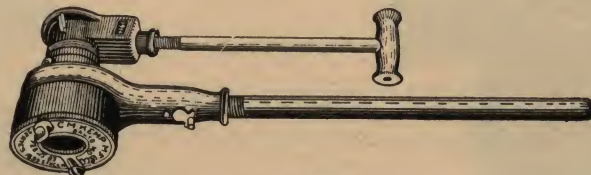


2661 N

MILLER'S REVERSIBLE RATCHET DIE PLATE, PLATE 2661 N

No.	Threads Pipe, in.	Dimensions of Dies, in.	Die Plate Complete	Without Dies	Extra Dies	Extra Bushings	Extra Die Frames
No. B	¼ to 1	2½x2½x ¾	\$15.00	\$ 7.50	\$1.50	\$0.25	\$0.22
No. C	1 to 1½	3 x3 x ¾	18.50	13.00	1.80	.35	.30
No. D	1¼ to 2	4 x4 x 7/8	20.00	12.50	2.50	.45	.38
No. E	2½ to 3	5 x5 x1¼	43.00	29.00	7.75	.85	.45

C, D and E have leader screws.



2662 N

CLIMAX RATCHET STOCK, PLATE 2662 N

No. 1 threads ¼ to 1-inch pipe, takes dies 2, 2¾ and 2½ inches square, each.....	\$10.00
No. 2 threads 1 to 2-inch pipe, takes dies 2¾, 2½, 3 and 3¾ inches square, each.....	17.00

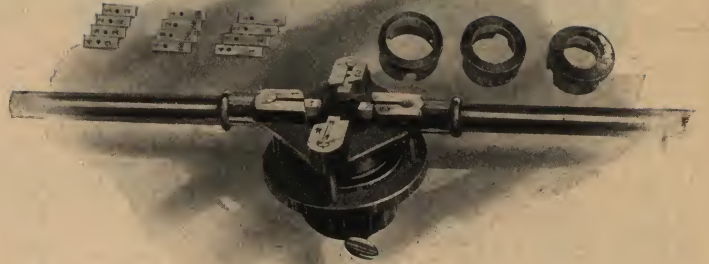
Above prices do not include dies.

Pipe dies 2¾ inches square, each, \$2.00; 3 inches square, each, \$2.50; 3¾ inches square, each, \$3.50.

No. 1 stock, to take adjustable dies (less dies), each.....	\$11.50
No. 2 stock, to take adjustable dies (less dies), each.....	18.50
Adjustable dies for No. 1 stock, each.....	1.50
Adjustable dies for No. 2 stock, each.....	4.00



No. 1



2664 N

No. 0



2663 N

No. 1½-R



2666 N

No. 1-A



2665 N

TOLEDO ADJUSTABLE STOCKS AND DIES, PLATE 2663 N TO PLATE 2666 N

Number	0	1	1-A	1½-R
Threads pipe, inches.....	0	1	1-A	1½-R
Each	⅛ to ¾	1 to 2	1 to 2	2 to 3
Extra dies, per single set.....	\$16.00	\$24.00	\$30.00	\$50.00
	2.50	2.50	2.50	4.00

No. 2



2667 N



2667A N

TOLEDO GEARED ADJUSTABLE STOCK AND DIE No. 2, PLATE 2667 N

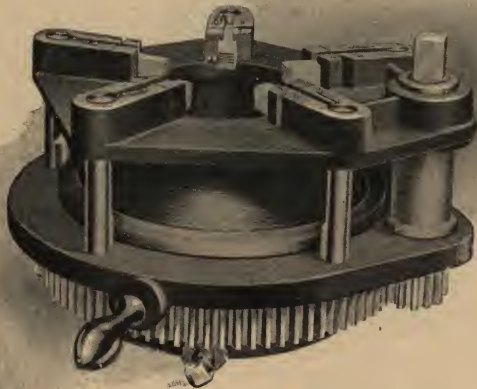
Threads pipe 2½ to 4 inches, inclusive, each.....	\$100.00
Extra dies, 2½-inch, 3-inch, 3½-inch or 4-inch, per single set	8.00

TOLEDO PIPE THREADER No. 00, PLATE 2667A N

Threads pipe ⅛ to ¾ inch, inclusive. With oak case, each.....	\$20.00
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No. 3



2668 N

No. 10-A

No. 10



2669 N



2670 N

**TOLEDO ADJUSTABLE STOCKS AND DIES,
PLATE 2668 N TO PLATE 2670 N**

Number	3	10	10-A
Threads pipe, inches.....	4½ to 8	1 to 2	1 to 2
Each	\$300.00	\$28.00	\$34.00
Extra dies, per single set.....	12.00	2.75	2.75



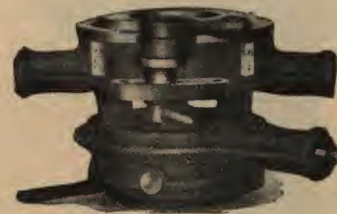
2671 N

TOLEDO RATCHET BORING TOOL, PLATE 2671 N

Complete outfit includes 2-inch and 2½-inch bits, each.....\$30.00



2672 N



2673 N

BULLDOG DIE STOCK, PLATE 2672 N

Number	Sizes of Pipe each Stock will Thread				Each
	One Set	One Set	One Set	One Set	
101.....	⅛	¼ and ⅜	½ and ¾	.....	\$13.00
102.....	¼ and ⅜	½ and ¾	1 and 1¼	.....	17.00
103.....	.....	.....	1 and 1¼	1½ and 2	22.00
104.....	.....	½ and ¾	1 and 1¼	1½ and 2	25.00
104½.....	¼ and ⅜	½ and ¾	1 and 1¼	1½ and 2	28.00
105.....	.....	1½ and 2	2½ and 3	.....	40.00

BULLDOG RATCHET DIE STOCK, PLATE 2673 N

Number	Sizes of Pipe each Stock will Thread				Each
	One Set	One Set	One Set	One Set	
102-R.....	¼ and ⅜	½ and ¾	1 and 1¼	.....	\$20.00
103-R.....	1 and 1¼	1½ and 2	27.00
104-R.....	½ and ¾	1 and 1¼	1½ and 2	30.00
105-R.....	1½ and 2	50.00
105½-R.....	1 and 1¼	1½ and 2	53.00



2674 N

MATCHLESS DIE STOCK, PLATE 2674 N

Threads pipe 1 to 2 inches, inclusive, each.....\$30.00
 Extra dies, per set..... 2.00



2676 N

NIPPLE JAWS, PLATE 2676 N

Nipple jaws, for No. 300-A or No. 300-B machine, per set (2 pieces).....\$ 7.50
 Nipple jaws, for No. 304-A or No. 304-B machine, per set (2 pieces)..... 7.50
 Nipple jaws, for No. 306-A or No. 306-B machine, per set (2 pieces)..... 10.00



2678 N

OSTER BELT-DRIVEN PIPE MACHINE, PLATE 2678 N

Number 300-A
 Threads pipe, inches..... $\frac{1}{4}$ to 2
 Complete, with countershaft, oil pump and automatic cut-off \$200.00
 Extra dies, right or left, per set..... 3.00
 Bolt dies, per each size of bolt..... 4.50
 If cut-off not wanted, deduct..... 25.00
 Add for automatic die release..... 10.00



2675 N

OSTER 2-INCH HAND MACHINE, PLATE 2675 N

Number 201
 Threads pipe, inches..... $\frac{1}{4}$ to 2
 Complete, with tripod and pan..... \$70.00
 Complete, without tripod and pan..... 60.00
 Extra dies, right or left-hand, per set (4 pieces). 3.00



2677 N

OSTER LIGHT HAND MACHINE, PLATE 2677 N

Number	16	17
Threads pipe, inches.....	$2\frac{1}{2}$ to 4	$2\frac{1}{2}$ to 6
Complete, with bench bracket.....	\$110.00	\$185.00
Complete, with tripod	125.00	200.00
Extra dies, per set (4 pieces).....	4.00	5.00
Add, for special dies 1 to 2 inches.....	6.00	7.50



2679 N

OSTER 4 AND 6-INCH MACHINE, PLATE 2679 N

Number	204	206
Threads pipe, inches.....	1 to 4	1 to 6
Complete, with tripod stand.....	\$150.00	\$250.00
If stand not wanted, deduct.....	10.00	25.00
Extra dies, right or left, per set of 4 pieces	4.00	5.00
Extra cutting-off blades, each.....	.75	.75



2647 N



2648 N

THE GREEN RIVER SCREW PLATES, PLATE 2647 N

No. 1102—Stock, tap wrench and sizes $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$ inch. Complete, in case.....	\$12.00
No. 101—Same as above, but without tap wrench. Complete, in case	11.00
No. 1124—Stock, tap wrench and sizes $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch. Complete, in case.....	11.25
No. 123—Same as above, but without tap wrench. Complete, in case	10.25
No. 1104—Stock, tap wrench and sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch. Complete, in case.....	14.00
No. 103—Same as above, but without tap wrench. Complete, in case	13.00
No. 1125—Stock, tap wrench and sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch. Complete, in case.....	16.25
No. 125—Same as above, but without tap wrench. Complete, in case	15.25
No. 1106—Stock, tap wrench and sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch. Complete, in case.....	15.25
No. 105—Same as above, but without tap wrench. Complete, in case	14.25
No. 1108—Stock, tap wrench and sizes $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch. Complete, in case.....	16.75
No. 107—Same as above, but without tap wrench. Complete, in case	15.75
No. 1110—Stock, tap wrench and sizes $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch. Complete, in case.....	21.00
No. 109—Same as above, but without tap wrench. Complete, in case	20.00
No. 1112—Stock, tap wrench and sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch. Complete, in case.....	24.00
No. 111—Same as above, but without tap wrench. Complete, in case	23.00
No. 113—Stock, sizes $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$ inch. Complete, in case	26.00
No. 114—Stock, sizes $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$ inch. Complete, in case.....	30.00
No. 115—Stock, sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$ inch. Complete, in case.....	34.00
No. 116—Stock, sizes $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$ inch. Complete, in case	40.00
No. 1118—Two stocks, tap wrench and sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch. Complete, in case.....	26.00
No. 117—Same as above, but without tap wrench. Complete, in case	25.00
No. 119—Two stocks, sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$ inch. Complete, in case.....	36.00
No. 120—Two stocks, sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$ inch. Complete, in case.....	53.00

LIGHTNING SCREW PLATES, PLATE 2648 N

No. 1191—Stock, tap wrench and sizes $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$ inch. Complete, in case.....	\$12.50
No. 190—Same as above, but without tap wrench. Complete, in case	11.75
No. 1189—Stock, tap wrench and sizes $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch. Complete, in case.....	13.00
No. 188—Same as above, but without tap wrench. Complete, in case	12.25
No. 1193—Stock, tap wrench and sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch. Complete, in case.....	15.25
No. 192—Same as above, but without tap wrench. Complete, in case	14.50
No. 1195—Stock, tap wrench and sizes $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch. Complete, in case.....	16.75
No. 194—Same as above, but without tap wrench. Complete, in case	15.75
No. 1197—Stock, tap wrench and sizes $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch. Complete, in case.....	21.00
No. 196—Same as above, but without tap wrench. Complete, in case	20.00
No. 1199—Stock, tap wrench and sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch. Complete, in case.....	24.25
No. 198—Same as above, but without tap wrench. Complete, in case	23.25
No. 200—Stock and sizes $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$ inch. Complete, in case	42.75
No. 205—Two stocks and sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$ inch. Complete, in case.....	57.00

Will send all taps and dies, whether in complete sets or separately, $\frac{1}{32}$ over size V thread, unless otherwise ordered. V thread exact size, United States standard, or Whitworth (English) threads supplied at same price if ordered.



2649 N

LIGHTNING TRIPLE DIE STOCK, PLATE 2649 N

Size of dies, $\frac{3}{8}$ -inch, 14-thread; $\frac{7}{16}$ -inch, 12-thread;
 $\frac{1}{2}$ -inch, 12-thread.

Each	\$5.25
Dies $\frac{3}{8}$ -inch, 14-thread only, each.....	1.15
Dies $\frac{7}{16}$ -inch, 12-thread only, each.....	1.30
Dies $\frac{1}{2}$ -inch, 12-thread only, each.....	1.50



2650 N

LIGHTNING DOUBLE DIE STOCK, PLATE 2650 N

Size of dies, $\frac{3}{8}$ -inch, 14-thread; $\frac{7}{16}$ -inch, 12-thread.

Each	\$3.00
Dies $\frac{3}{8}$ -inch, 14-thread only, each.....	1.15
Dies $\frac{7}{16}$ -inch, 12-thread only, each.....	1.30



2651 N

LIGHTNING SINGLE DIE STOCK, PLATE 2651 N

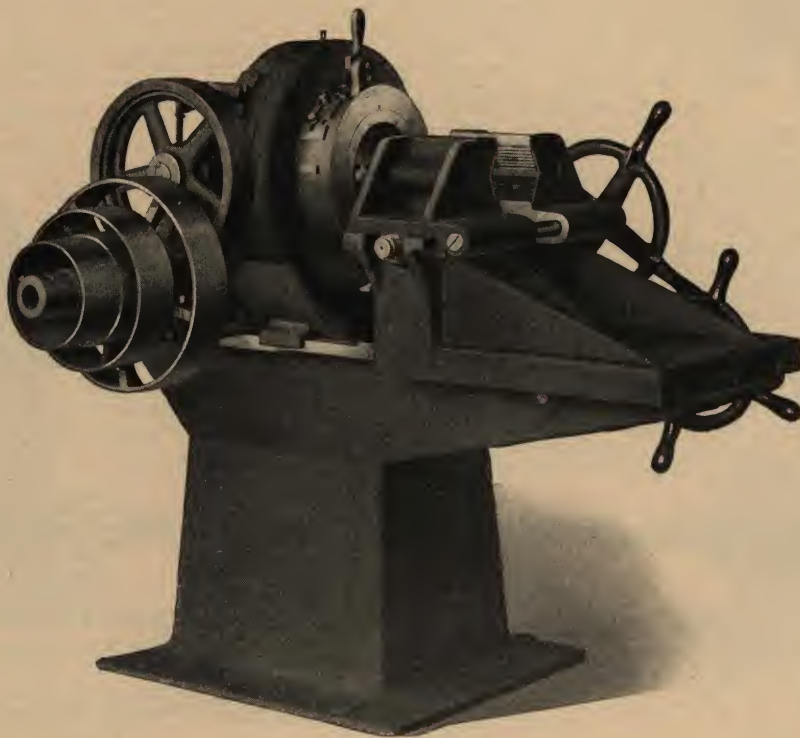
Stock with $\frac{3}{8}$ -inch die, 14-thread, each.....	\$1.70
Stock with $\frac{7}{16}$ -inch die, 12-thread, each.....	1.90
Stock with $\frac{1}{2}$ -inch die, 12-thread, each.....	2.20
Die only, $\frac{3}{8}$ -inch, 14-thread, each.....	1.15
Die only, $\frac{7}{16}$ -inch, 12-thread, each.....	1.30
Die only, $\frac{1}{2}$ -inch, 12-thread, each.....	1.50



2680 N

OSTER BELT-DRIVEN PIPE MACHINE, PLATE 2680 N

Number	304-A
Threads pipe, inches.....	1 to 4
Complete with countershaft, oil pump and automatic cut-off	\$300.00
Extra dies, right or left, per set.....	4.00
Bolt dies, per each size of bolt.....	6.00
If cut-off not wanted, deduct.....	25.00
Add for automatic die release.....	15.00



2681 N

OSTER BELT-DRIVEN PIPE MACHINE, PLATE 2681 N

Number	306-A
Threads pipe, inches.....	1 1/4 to 6
Complete, with countershaft, oil pump, automatic cut-off and pipe rest stand.....	\$425.00
Extra dies, right or left, per set.....	5.00
Bolt dies, per each size of bolt.....	7.50
Add for automatic die release.....	15.00



No. 30



2682 N

No. 56



2683 N

No. 94



2684 N

**FORBES HAND PIPE MACHINES, PLATE
2682 N AND PLATE 2683 N**

Number	Range	Approximate Net Weight, lbs.	Price
*30	¼ to 2 inches, both right and left	155	\$ 50.00
*32	¼ to 2 inches, for solid dies (without dies)....	140	45.00
*34	1 to 3 inches, R. H., 1 to 2 inches, L. H.....	185	75.00
*36	¾ to 3 inches, R. H., ¾ to 2 inches, L. H.....	190	85.00
*37	¼ to 3 inches, R. and L...	200	105.00
*38	1½ to 4 inches, R. H.....	251	100.00
*40	1½ to 4 inches, R. and L.	257	115.00
*42	1 to 4 inches, R. H.....	253	110.00
*44	1 to 4 inches, R. and L....	260	130.00
†46	2½ to 4 inches, R. H.....	237	85.00
†50	4 to 6 inches, R. H.....	341	115.00
†52	3½ to 6 inches, R. H.....	341	130.00
†54	2½ to 5 inches, R. H.....	343	150.00
†56	2½ to 6 inches, R. H.....	345	175.00
*58	1 to 6 inches, R. H.....	384	190.00
*60	1 to 6 inches, R. and L...	404	235.00
*61	2½ to 6 inches, R. and L..	398	205.00
†62	2½ to 6 inches, R. and L. (extra heavy)	815	300.00
*62½	1 to 6 inches, R. and L....	845	350.00
*63	2½ to 8 inches, R. and L..	661	360.00
†64	2½ to 8 inches, R. H.....	673	325.00
*65	1 to 8 inches, R. H.....	671	360.00
*65½	1 to 8 inches, R. and L....	660	395.00
†66	2½ to 10 inches, R. H....	989	500.00
*67	2½ to 10 inches, R. H....	995	500.00
*68	2½ to 10 inches, R. and L..	1,025	550.00
†69	2½ to 12 inches, R. H....	2,293	650.00
*69½	2½ to 12 inches, R. and L..	2,525	750.00
†69¾	4 I. D. to 15 in. O. D., R. H..	2,647	1,000.00

*Pressure feed machine.

†Lead screw machine.

Nos. 30 to 37 have no cut-off attachment unless specially ordered.

Weights are net without boxing, and are not guaranteed, as they will vary somewhat.

**FORBES HAND OR POWER MACHINES,
PLATE 2684 N**

Number	Range	Approximate Net Weight, lbs.	Price
*70	¼ to 2 inches, R. and L...	376	\$ 100.00
*72	¼ to 2 inches, for solid dies (without dies)....	352	95.00
*74	1 to 3 inches, R. H., 1 to 2 inches, L. H.....	491	125.00
*76	¾ to 3 inches, R. H., ¾ to 2 inches, L. H.....	484	135.00
*77	¼ to 3 inches, R. and L...	490	155.00
†78	2½ to 4 inches, R. H.....	652	140.00
†80	1½ to 4 inches, R. H.....	644	150.00
*82	1½ to 4 inches, R. and L..	665	165.00
*84	1 to 4 inches, R. H.....	662	160.00
*86	1 to 4 inches, R. and L....	648	180.00
†88	4 to 6 inches, R. H.....	758	170.00
†90	3½ to 6 inches, R. H.....	802	180.00
†92	2½ to 5 inches, R. H.....	810	200.00
†94	2½ to 6 inches, R. H.....	800	225.00
*95	2½ to 6 inches, R. and L..	818	255.00
*96	1 to 6 inches, R. H.....	860	250.00
*98	1 to 6 inches, R. and L....	881	285.00
*98½	1 to 8 inches, R. H.....	1,359	535.00
*99	2½ to 8 inches, R. and L..	1,326	535.00
*99½	1 to 8 inches, R. and L..	1,370	570.00
†100	2½ to 8 inches, R. H.....	1,500	500.00
†102	2½ to 10 inches, R. H....	2,025	700.00
*104	2½ to 10 inches, R. H....	2,150	700.00
*106	2½ to 10 inches, R. and L..	2,200	750.00
†107	2½ to 12 inches, R. H....	3,725	900.00
*108	2½ to 12 inches, R. and L..	4,156	1,000.00

*Pressure feed machine.

†Lead screw machine.

Nos. 70 to 77 have no cut-off attachment unless specially ordered.

The prices include countershaft, ratchet wrench and pipe rest.

Weights are net without boxing, and are not guaranteed, as they will vary somewhat.



No. 2 B. & K. IMPROVED PIPE MACHINE, PLATE 2685 N

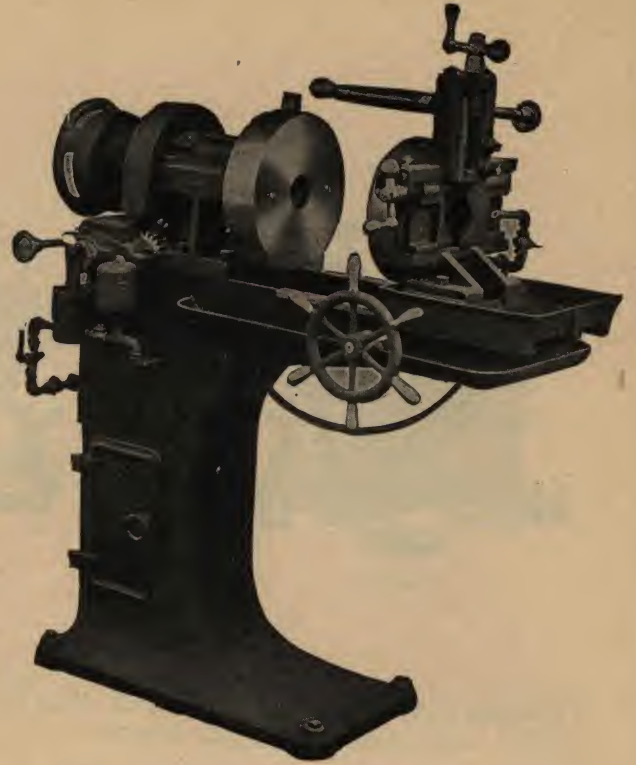
This machine is designed to meet the demand for a good combination pipe and bolt threading machine, its capacity for threading pipe being $\frac{1}{4}$ to 2 inches, and for threading bolts $\frac{1}{2}$ to $1\frac{1}{2}$ inches. By referring to the cut of the machine, it will be noted that the column is of box section, with as few and as small openings as possible, and it increases in depth as it extends downward toward the base.

The chuck, being universal, can be set very quickly for the different sizes of pipe, adapting the machine for the all-around shop work, where the sizes to be threaded change frequently. A self-centering scroll chuck is placed on the rear end of the spindle, which insures the center line of the pipe being symmetrical with that of the machine, so that the threads are cut at exact right-angles to the axis, and several lengths of pipe will be in perfect line when joined.

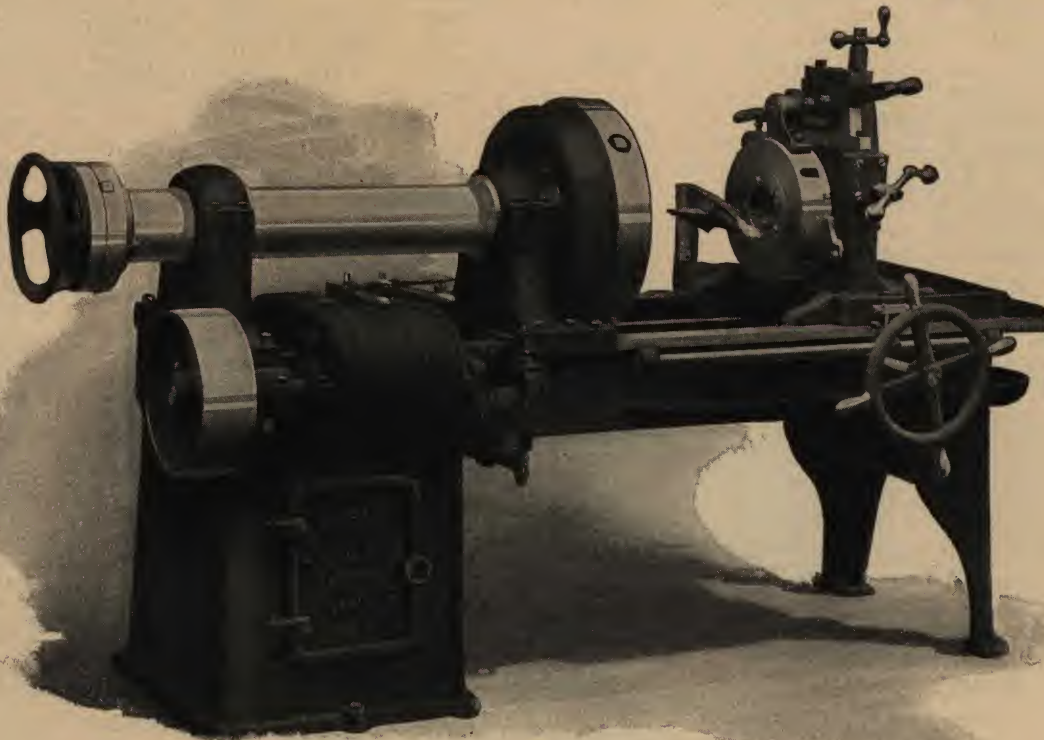
The dies are of the expanding adjustable type. There are four pieces to each set, and a separate set is furnished for each size of pipe or bolts. The dies can be changed without removing a bolt or screw.

The machine is furnished complete with dies, cut-off tool, oil pump, countershaft and wrenches.

Capacity, pipe, inches	$\frac{1}{4}$ to 2
Capacity, bolts, inches	$\frac{1}{2}$ to $1\frac{1}{2}$
Weight, pounds	1,350
Number of dies per set.....	4
Number of sets furnished.....	8
H. P. motor required.....	1



2685 N



2686 N

PEERLESS IMPROVED PIPE MACHINE, PLATE 2686 N

This type of machine is equipped with a universal gripping chuck, placed on the front end of the spindle. It consists of a sliding frame, two lower and one upper jaw, and screw, all encased in the chuck shell. The end of the chuck screw being flush with the rim of the shell. A self-centering scroll chuck is placed on the rear end of the spindle, which insures the center line of the pipe being symmetrical with that of the machine.

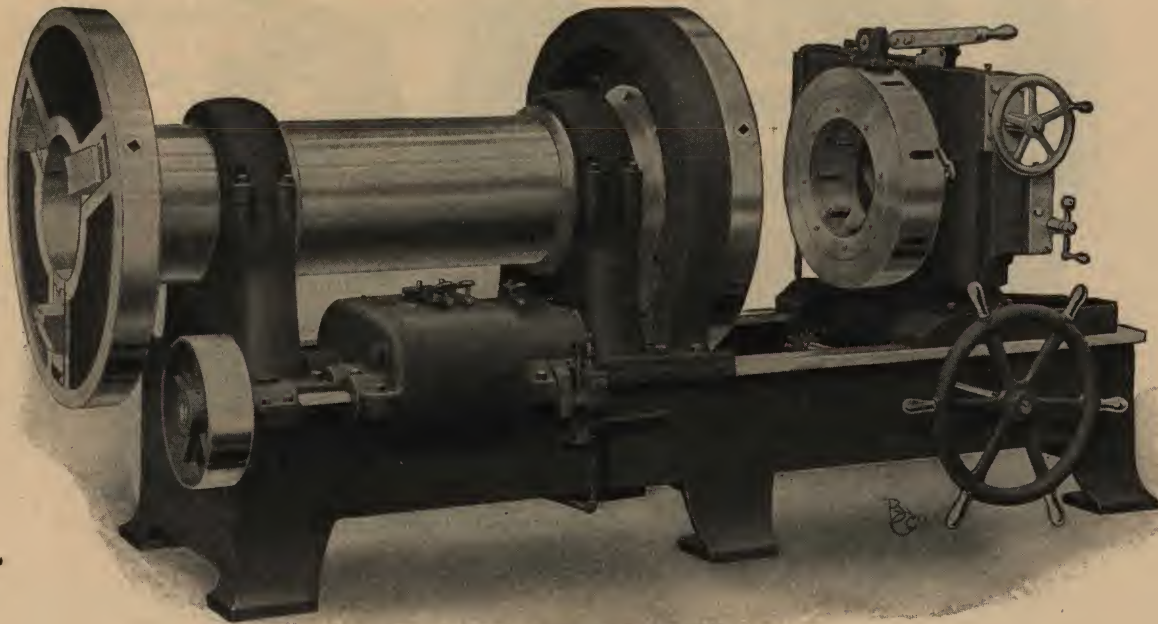
The die head is equipped with the Peerless adjusting mechanism, simple to operate, and dependable. The dies can be changed without removing a screw or plate. The adjusting mechanism permits the cutting of a thread either over or under standard size. The cut-off tool is made of beveled, high-speed steel. A reamer is provided. The No. 2 and No. 3 also have a thread measuring gauge.

A rotary oil pump, gear-driven, supplies oil to both the dies and cut-off tool.

The speed change gear box gives the correct threading speed for each size of pipe. A speed plate shows the operator how to set the levers—no guessing as to the proper speed.

A constant-speed motor can be used, and is mounted on the back. The drive being through a silent chain.

Number	2	3	4
Capacity, inches	$\frac{1}{4}$ to 2	$\frac{1}{4}$ to 3	1 to 4
Weight, pounds	2,500	2,800	3,200
Number of dies per set.....	5	5	6
Number of sets furnished.....	8	10	8
H. P. motor required.....	2	3	3



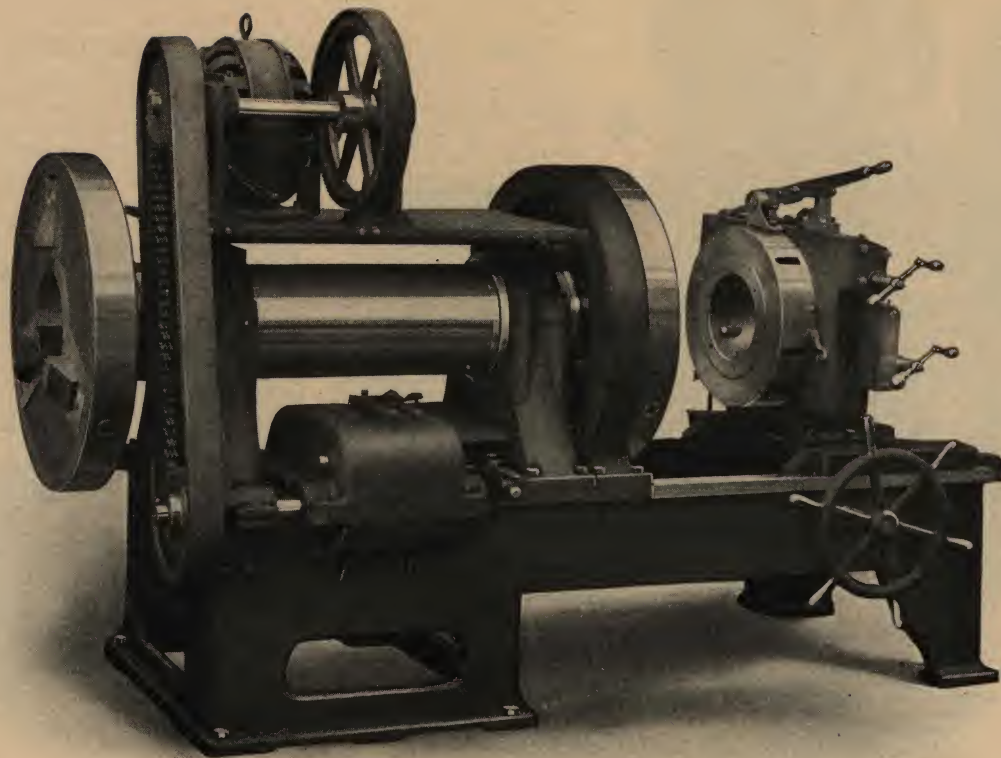
2688 N

DUPLEX IMPROVED PIPE MACHINE, PLATE 2688 N

The mechanical simplicity of the Duplex machines makes them favorites with the men who operate them. There are no heavy die heads to handle, no delicate mechanism to break or get out of adjustment. The machines are rigid, well designed, and special attention has been given to all wearing surfaces. They derive their name from being equipped with two gripping chucks. Each chuck has three independent jaws. The rear chuck has special flange grippers, which will be found very convenient in making up flanged fittings. The fact that these chucks are independent is of great advantage in handling the larger sizes of pipe, because of the irregularities in the circumference of the pipe. It is a simple matter to cause the pipe to run true with the three-jaw independent chuck.

The die-head is of the low-down type, placing all operating handles and lever within easy reach of the operator. Heavy steel forks steady the pipe while being cut off. The cut-off device is heavy and substantial. The No. 6, No. 8, No. 10 and No. 12 have a speed change gear box. The No. 16 and No. 18 have cone pulleys.

Number	6	8	10	12	16	18
Capacity, inches	1¼ to 6	2½ to 8	3½ to 10	4 to 12	7 to 16	8 to 18
Weight, pounds	5,000	6,900	9,750	10,000	13,000	13,400
Number of dies per set.....	6	6	6 and 12	6 and 12	6 and 12	6 and 12
Number of sets furnished	10	9	9	9	8	8
H. P. motor required.....	3	4	5	5	7½	7½



2689 N

CONSTANT-SPEED MOTOR DRIVE FOR BIGNALL & KEELER PIPE MACHINES

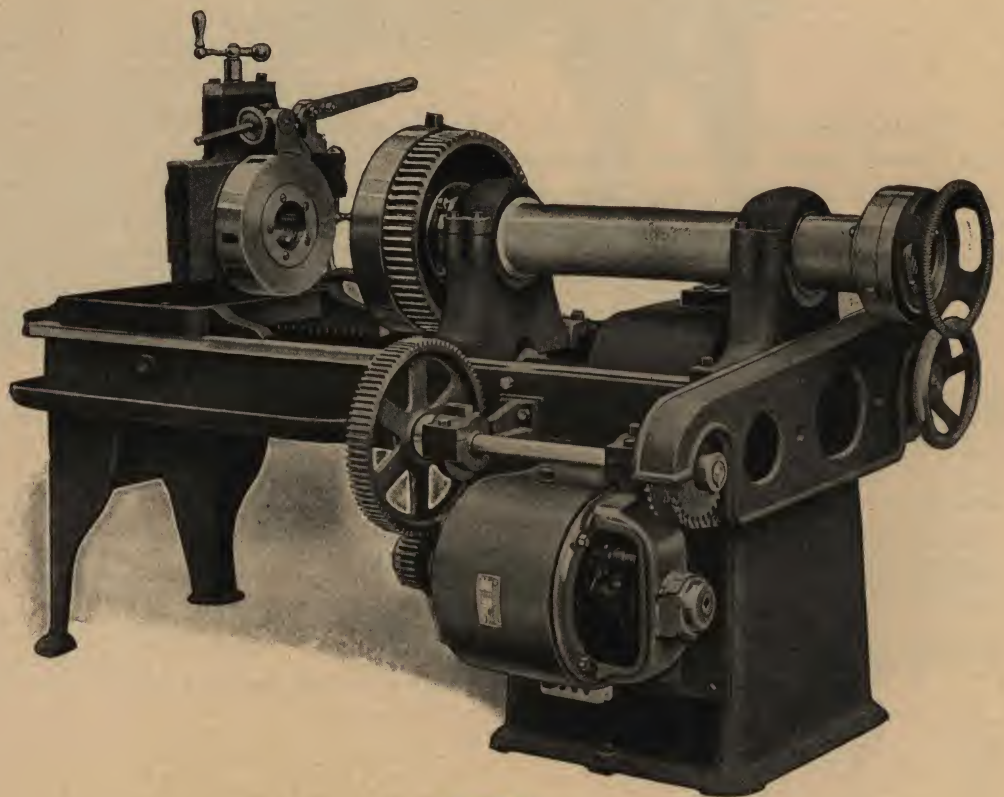
The trend of the modern shop practice is to drive all machines with individual motors, since it eliminates all overhead shafts and belting. It also permits placing the machines in basements or in buildings with low head room, and since it is not necessary that the machines conform with any line or countershaft, they may be placed in any position in the shop.

Constant-speed motors are used, thus permitting the machine to be operated at the required speeds without varying the speed of the motor. On machines having a gear-box the power is transmitted through a silent chain, the changes of speed being obtained through the gear-box. On cone-driven machines the power is transmitted by belt, the various speeds being obtained by shifting the belt and compound gears.

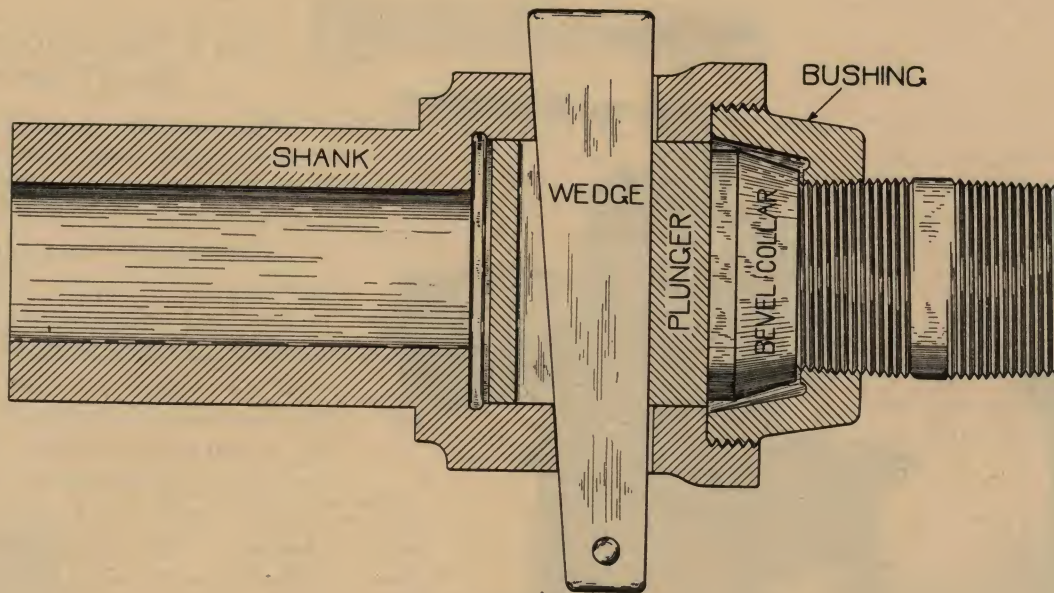
Full reverse switches are furnished to reverse the machine for cutting left-hand threads or taking apart old fittings.

Information Required

Always state whether the current is direct or alternating, and give the voltage. If current is alternating, give phase and cycle.



2690 N



2691 N

B. & K. NIPPLE HOLDERS, PLATE 2691 N

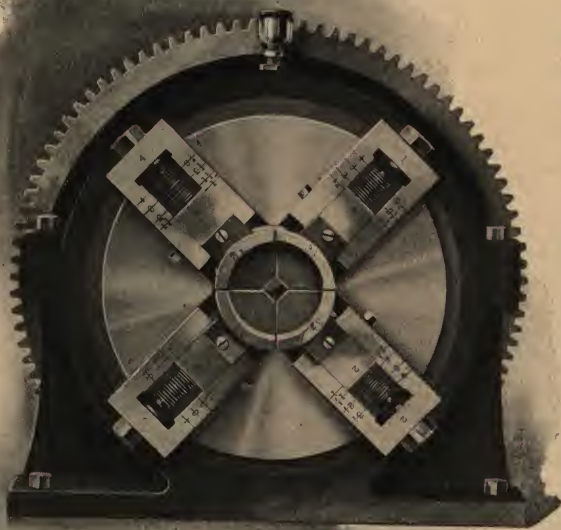
For Threading Close and Short Nipples.

This tool is simple to operate, and is made to be used in the No. 2 B. & K. Peerless and Duplex machines. It consists of a holder, plunger, beveled collar, wedge and a steel bushing for each size of nipple. In operating, the shank of the holder is gripped in the chuck of the machine. The beveled collar is placed on the plunger with the beveled side out for the small sizes, and the flat side out for the large sizes of nipples. Screw in the proper size bushing and drive the wedge lightly. The nipple, which has previously been threaded on one end, is then screwed into the bushing, and then threaded. After threading, drive the wedge back, which releases the plunger, allowing the nipple to be removed by hand. Never insert nor thread a nipple with the wedge loose.

Number	2	3	4	6	8	10	12
Capacity, inches	1/4 to 2	1/4 to 3	1 to 4	1 1/4 to 6	2 1/2 to 8	3 1/2 to 10	4 to 12
Weight, pounds	40	85	120	235	375	550	770

SECTIONAL NIPPLE HOLDERS, PLATE 2692 N

Used in the P. D. Q. C. Machines.



The cut shows the sectional nipple holders in place on the machine in the closed position. By means of these holders short or close nipples can be threaded, and when used are substituted for the regular pipe grippers. Each set has four pieces, and a separate set is used for each size nipple. They are made of crucible steel forgings, carefully made and tempered, and will not injure the threads on the nipple. Nipples can be inserted, threaded and removed while the machine is running, making a very rapid means for working up the scrap which accumulates around the shop.

In making nipples with these holders the pipe is threaded on one end and cut off to the desired length. Then the pipe grippers are removed and the nipple holders are put in place, and the other end of the nipple is threaded.

If nipple holders are wanted, it is advisable to get them with the machine.

2692 N



2693 N

**B. & K. ROLLING CUTTER,
PLATE 2693 N**

This machine is designed to cut off pipe or tubing from $\frac{1}{4}$ to 4 inches. The arrangement permits passing the pipe under the cutter from either side.

The cutting is accomplished by the lowering of the cutter, which allows the pipe to bear evenly across the rolls. The cutter is adjusted by the hand wheel until it just clears the pipe, then by using the lever, which terminates in a nut having a coarse pitch thread, the cutter can be quickly raised and lowered.

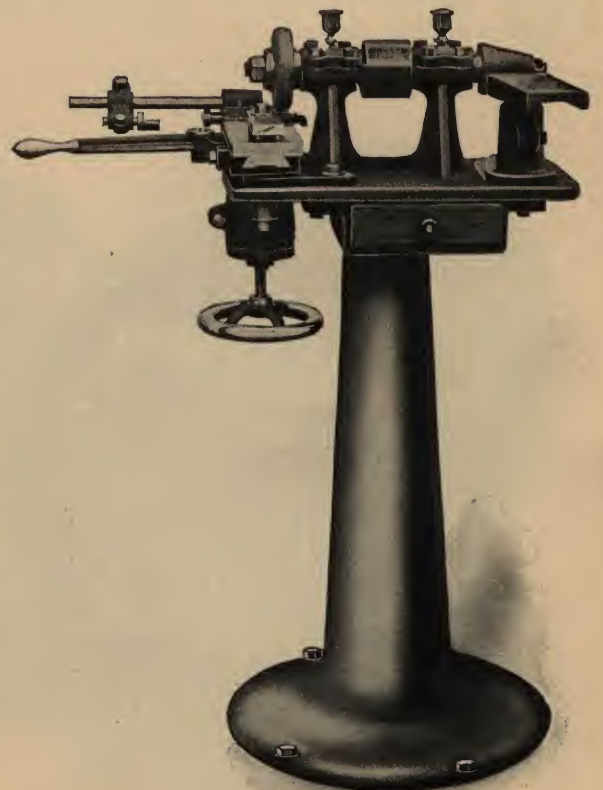
The rolls are provided with roller bearings. The cutter has two bearings with bronze bushings.

Number	4
Capacity, inches	$\frac{1}{4}$ to 4
Speed of pulleys.....	250
Size of pulleys, inches.....	$9 \times 3\frac{1}{2}$
Floor space, inches.....	23×25
Weight, pounds	750

B. & K. DIE GRINDER, PLATE 2694 N

In the cutting of threads on pipe it is very important that the dies should be of the correct shape. This is particularly necessary for threading steel pipe, which is used so extensively. A die, to work properly and cut a clean, perfect thread, must have the proper rake and clearance. Without this the threads are ragged and torn, and wear quickly. Another very important point frequently overlooked is the lubricating oil. A die may be properly shaped and yet cut imperfect threads if not properly lubricated. Using lard oil is to be advised.

In the design and construction of this machine our aim has been to produce a simple and easily operated tool. It may be briefly described as having a special wheel, so that straight-thread dies, as well as the regular taper pipe dies, can be ground. The shape of the wheel gives the die the correct angle of rake. A wheel template is furnished to assist in dressing the wheel to the correct shape. A dresser is also furnished. The cone-shaped wheel on the other end of the spindle is for grinding the lead. By removing the special-shaped wheel and using a straight-face wheel, which is furnished, the machine may be used for grinding other tools. The countershaft has tight and loose pulleys, 5-inch diameter, 3-inch face; driving pulley, $16 \times 2\frac{1}{2}$ inches, and should run 830 R. P. M. Weight, 600 pounds.



2694 N



2760 N

CAST IRON WATER PIPE, PLATE 2760 N

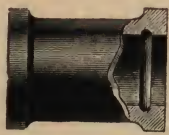
Size, inches	3	4	6	8	10	12	14	16	18	20	24
Thickness, inches	.42	.45	.48	.51	.57	.62	.66	.70	.75	.80	.89
Weight per foot, pounds	16.2	21.7	33.3	47.5	63.8	82.1	102.5	125.0	150.0	175.0	233.3

CAST IRON GAS PIPE

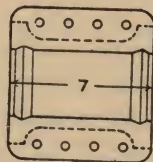
Size, inches	4	6	8	10	12	16	20	24
Thickness, inches	.40	.43	.45	.49	.54	.62	.68	.76
Weight per foot, pounds	19.33	30.25	42.08	55.91	73.83	112.58	153.83	206.41

APPROXIMATE QUANTITIES OF LEAD AND HEMP REQUIRED PER JOINT

Size, inches	3	4	6	8	10	12	14	16	18	20	24
Lead, pounds	6	7½	10¼	13¼	16	19	22	30	33.80	37	44
Hemp, ounces	3	3¼	5	7	8½	10	13	15	16	20	24



2761 N



2762 N



2763 N



2764 N

SLEEVE, PLATE 2761 N

Size, inches	3	4	6	8	10	12	14	16	18	20	24
Weight, pounds	34	47	68	104	123	174	220	274	321	374	477

SPLIT SLEEVE, PLATE 2762 N

Size, inches	3	4	6	8	10	12	14	16	18	20	24
Weight, pounds	56	72	86	133	158	222	264	323	373	428	535

CAP, PLATE 2763 N

Size, inches	3	4	6	8	10	12	14	16	18	20	24
Weight, pounds	14	26	40	59	81	104	140	183	226	278	392

CROSS, PLATE 2764 N

Size, Inches	Weight, Pounds	Size, Inches	Weight, Pounds	Size, Inches	Weight, Pounds	Size, Inches	Weight, Pounds
3x3x3x3	125	8x 8x 4x 4	294	12x12x10x10	577	24x24x24x24	1,834
4x4x4x4	166	10x10x10x10	493	12x12x 8x 8	545	30x30x30x30	2,520
6x6x6x6	257	10x10x 8x 8	443	12x12x 6x 6	512	36x36x36x36	3,418
6x6x4x4	221	10x10x 6x 6	406	12x12x 4x 4	486	48x48x48x48	6,846
8x8x8x8	372	10x10x 4x 4	377	16x16x16x16	1,259		
8x8x6x6	325	12x12x12x12	623	20x20x20x20	1,307		



2765 N



2766 N



2767 N

QUARTER BEND, PLATE 2765 N

Size, inches	3	4	6	8	10	12	14	16	18	20	24
Approximate weight, pounds	65	82	130	200	278	366	406	594	710	840	1,290

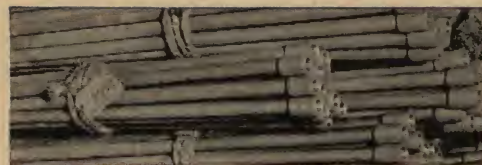
EIGHTH BEND, PLATE 2766 N

Size, inches	3	4	6	8	10	12	14	16	18	20	24
Approximate weight, pounds	53	66	105	150	202	265	359	445	533	758	1,181

TEE, PLATE 2767 N

Size, Inches	Weight, Pounds	Size, Inches	Weight, Pounds	Size, Inches	Weight, Pounds	Size, Inches	Weight, Pounds
3x3x3	101	8x 8x 4	287	12x12x10	564	16x16x 8	782
4x4x4	139	10x10x10	445	12x12x 8	547	20x20x20	1,298
6x6x6	220	10x10x 8	421	12x12x 6	531	24x24x24	1,806
6x6x4	203	10x10x 6	402	12x12x 4	518	30x30x30	2,545
8x8x8	326	10x10x 4	388	16x16x16	869	36x36x36	3,495
8x8x6	302	12x12x12	585	16x16x12	827	48x48x48	6,735

Prices on application.



BYERS GENUINE WROUGHT IRON PIPE

FULL WEIGHT GUARANTEED

For Gas, Steam, Water, and Oil.

Specifications Must Read: A. M. Byers genuine wrought iron pipe, as the term "wrought iron" is used indiscriminately to designate all pipe, whether iron or steel, and in writing your order you should specify "A. M. Byers Genuine W. I. Pipe or A. M. Byers Pipe," as this company makes only genuine wrought iron.

Mill Marks: All A. M. Byers pipe has the name "Byers" rolled into each length and each coupling in all sizes.

Specifications

All A. M. Byers pipe is made from Lake Superior ores and Connellsville coke and from straight pig muck iron without the use of scrap of any description. All pipe bearing the "Byers" stamp is full weight, each length weighed separately and every length coupled up and given a hydrostatic test of from 750 to 2,500 pounds.

Several feet apart on every length of pipe the "Byers" name is rolled in raised letters, except that small sizes, including $\frac{1}{8}$ -inch regular and extra strong and $\frac{1}{4}$ -inch extra strong, do not have the "Byers" name rolled in the metal, but are bundled and identified by a tin tag having the "Byers" name embossed across the top.

Byers pipe of $1\frac{1}{4}$ -inch, $1\frac{1}{2}$ -inch and 2-inch size is finished either lapwelded or buttwelded and have a "B" or an "L" rolled into the metal, as follows: Byers—B to indicate buttweld ($1\frac{1}{4}$ -inch, $1\frac{1}{2}$ -inch and 2-inch only). Byers—L to indicate lapweld ($1\frac{1}{4}$ -inch, $1\frac{1}{2}$ -inch and 2-inch only).

Character

Genuine wrought iron is the designation often given "near iron," or iron made from iron into which is introduced scrap. This is not genuine wrought iron pipe, as scrap means steel and steel does not mean iron.

The A. M. Byers Co., established in 1864, has continuously operated their mills, producing the highest character wrought iron pipe, using only Northern ores (which must not be confused with Southern ores), and without the use of scrap of any description.

Their standards of weights are accepted universally, and the Byers requirements do not permit the acceptance or passing of "short weight"; each length is weighed.

The Byers Co. do not make "merchant" or "card" weight pipe—only full-weight guaranteed pipe. Under the Byers rigid hydrostatic test every length is put under water test of from 750 to 2,500 pounds per square inch, and under this tremendous pressure any weakness in weld, defect in threading or weak spot in wall, would immediately develop.

The price of Byers pipe indicates in a measure its superior value. The price per foot at the mill or warehouse is insignificant compared to the price installed.

To obtain the high quality, the increased service and life as developed in Byers pipe, and proven in over 50 years' uniform production, the price must be greater, but the difference in price per foot is so small as to sink into insignificance where permanence is a necessity.

Byers full-weight wrought iron pipe in standard, extra strong, double extra strong, takes standard pipe list on page 65.

Selling agents for Byers' genuine wrought iron full-weight guaranteed pipe, and carry a full stock.



STANDARD STEAM, GAS AND WATER PIPE
List Black and Galvanized

Adopted by all manufacturers January 1, 1913

Size	Per Foot	Thickness	Nominal Weight per Foot	Threads per Inch	Size	Per Foot	Thickness	Nominal Weight per Foot	Threads per Inch
1/8	\$0.05 1/2	.068	.244	27	6	\$1.92	.280	18.974	8
1/4	.06	.088	.424	18	7	2.38	.301	23.544	8
3/8	.06	.091	.567	18	8	2.50	.277	24.696	8
1/2	.08 1/2	.109	.850	14	8	2.88	.322	28.554	8
3/4	.11 1/2	.113	1.130	14	9	3.45	.342	33.907	8
1	.17	.133	1.678	11 1/2	10	3.20	.279	31.201	8
1 1/4	.23	.140	2.272	11 1/2	10	3.50	.307	34.240	8
1 1/2	.27 1/2	.145	2.717	11 1/2	10	4.12	.365	40.483	8
2	.37	.154	3.652	11 1/2	11	4.63	.375	45.557	8
2 1/2	.58 1/2	.203	5.793	8	12	4.50	.330	43.773	8
3	.76 1/2	.216	7.575	8	12	5.07	.375	49.562	8
3 1/2	.92	.226	9.109	8	13	5.60	.375	54.568	8
4	1.09	.237	10.790	8	14	6.10	.375	58.573	8
4 1/2	1.27	.247	12.538	8	15	6.50	.375	62.579	8
5	1.48	.258	14.617	8					

Unless galvanized pipe is specified, we ship black pipe, random lengths, with threads and couplings. For cut lengths an extra charge will be made.

CUTTING AND THREADING PIPE

Size	Price each cut and each thread	1/4 to 3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Lock nut threads	\$0.06	\$0.08	\$0.09	\$0.10	\$0.15	\$0.25	\$0.30	\$0.35	\$0.45	
Size		4 1/2	5	6	7	8	9	10	12	14
Price each cut and each thread	\$0.55	\$0.60	\$0.80	\$1.25	\$1.60	\$2.50	\$3.00	\$4.00	\$5.00	

EXTRA STRONG AND DOUBLE EXTRA STRONG PIPE

Extra Strong Pipe

Double Extra Strong Pipe

Size	Per Foot	Thickness	Nominal Weight per Foot, Plain Ends	Size	Per Foot	Thickness	Nominal Weight per Foot, Plain Ends
1/8	\$0.12	.095	.314	1/2	\$0.32	.294	1.714
1/4	.07 1/2	.119	.535	3/4	.35	.308	2.440
3/8	.07 1/2	.126	.738	1	.37	.358	3.659
1/2	.11	.147	1.087	1 1/4	.52 1/2	.382	5.214
3/4	.15	.154	1.473	1 1/2	.65	.400	6.408
1	.22	.179	2.171	2	.91	.436	9.029
1 1/4	.30	.191	2.996	2 1/2	1.37	.552	13.695
1 1/2	.36 1/2	.200	3.631	3	1.86	.600	18.583
2	.50 1/2	.218	5.022	3 1/2	2.30	.636	22.850
2 1/2	.77	.276	7.661	4	2.76	.674	27.541
3	1.03	.300	10.252	4 1/2	3.26	.710	32.530
3 1/2	1.25	.318	12.505	5	3.86	.750	38.552
4	1.50	.337	14.983	6	5.32	.864	53.160
4 1/2	1.80	.355	17.611	7	6.35	.875	63.079
5	2.08	.375	20.778	8	7.25	.875	72.424
6	2.86	.432	28.573				
7	3.81	.500	38.048				
8	4.34	.500	43.388				

STANDARD LAP-WELDED BOILER TUBES

Outside Diameter, Inches	Per Foot	Thickness, Inches	B. W. G.	Nominal Weight per Foot	Outside Diameter, Inches	Per Foot	Thickness, Inches	B. W. G.	Nominal Weight per Foot
1 3/4	\$0.22	.095	13	1.67	4 1/2	\$0.62	.134	10	6.25
2	.20	.095	13	1.93	5	.76	.148	9	7.67
2 1/4	.22	.095	13	2.18	6	1.02	.165	8	10.28
2 1/2	.28	.109	12	2.78	7	1.20	.165	8	12.04
2 3/4	.31	.109	12	3.07	8	1.38	.165	8	13.80
3	.34	.109	12	3.36	9	1.70	.180	7	16.96
3 1/4	.40	.120	11	4.01	10	2.12	.203	6	21.24
3 1/2	.43	.120	11	4.33	11	2.53	.220	5	25.33
3 3/4	.47	.120	11	4.65	12	2.88	.229		28.79
4	.55	.134	10	5.53	13	3.24	.238	4	32.44

For extra wire gauge boiler tubes, away from standard not exceeding four wire gauges, one cent for each inch in diameter of tube for each additional gauge will be charged and added to net of invoice.



Socket Joint



Inserted Joint



LAP-WELDED ARTESIAN WELL CASING

List adopted January 1, 1913

Nominal Inside Diameter, Inches	Actual Outside Diameter, Inches	Per Foot	Nominal Weight per Foot, lbs.	Number Threads per Inch of Screw	Nominal Inside Diameter, Inches	Actual Outside Diameter, Inches	Per Foot	Nominal Weight per Foot, lbs.	Number Threads per Inch of Screw
2	2 1/4	.33	2.30	14	5 3/16	5 1/2	\$0.90	8.79	14
2 1/4	2 1/2	.33	2.76	14	5 3/8	6	1.05	10.22	14
2 1/2	2 3/4	.33	3.18	14	6 1/4	6 5/8	1.20	11.65	14
2 3/4	3	.40	3.57	14	6 5/8	7	1.35	12.68	14
3	3 1/4	.41	4.01	14	7 1/4	7 5/8	1.48	14.39	14
3 1/4	3 1/2	.46	4.50	14	7 5/8	8	1.60	15.52	11 1/2
3 1/2	3 3/4	.51	4.99	14	8 1/4	8 5/8	1.75	16.94	11 1/2
3 3/4	4	.56 1/2	5.53	14	8 5/8	9	1.90	18.43	11 1/2
4	4 1/4	.62	6.06	14	9 5/8	10	2.28	21.85	11 1/2
4 1/4	4 1/2	.68 1/2	6.61	14	10 5/8	11	2.68	25.78	11 1/2
4 1/2	4 3/4	.74	7.13	14	11 5/8	12	3.15	30.51	11 1/2
4 3/4	5	.81	7.87	14	12 1/2	13	3.65	35.24	11 1/2
5	5 1/4	.85	8.33	14					

Random lengths with threads and couplings will be shipped unless otherwise ordered.
 For cut lengths an extra charge will be made above random.
 For galvanized or asphalted an extra charge will be made above black.

CASING COUPLINGS

Size, inches	3	3 1/4	3 1/2	3 3/4	4	4 1/4	4 1/2	4 3/4	5	5 3/16	5 3/8	6 1/4	6 5/8
Price, plain	\$0.35	\$0.40	\$0.46	\$0.52	\$0.60	\$0.68	\$0.74	\$0.80	\$0.90	\$1.00	\$1.20	\$1.35	\$1.50
Price, galvanized	.50	.57	.65	.73	.85	1.00	1.05	1.15	1.30	1.40	1.70	1.90	2.15

CASING NIPPLES

Size, inches	3	3 1/4	3 1/2	3 3/4	4	4 1/4	4 1/2	4 3/4	5	5 3/16	5 3/8	6 1/4	6 5/8
Close or short	\$1.90	\$1.95	\$2.30	\$2.35	\$2.35	\$2.40	\$2.40	\$2.45	\$2.55	\$3.00	\$3.25	\$3.45	\$4.50
Shoulder or long	2.00	2.10	2.45	2.50	2.50	2.60	2.60	2.70	2.85	3.30	3.50	.....	.....
6 inches long	2.05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.80	4.75
7 inches long	2.10	2.15	2.50	2.60	2.60	2.70	2.70	2.80	2.95	3.50	3.65	4.00	5.00
8 inches long	2.15	2.20	2.60	2.65	2.75	2.80	2.80	2.95	3.10	3.65	3.80	4.20	5.25
9 inches long	2.25	2.30	2.65	2.75	2.80	2.90	2.90	3.05	3.25	3.80	3.95	4.35	5.45
10 inches long	2.30	2.35	2.70	2.85	2.90	3.00	3.00	3.15	3.40	4.00	4.10	4.55	5.70
11 inches long	2.35	2.40	2.80	2.90	3.00	3.05	3.10	3.25	3.55	4.15	4.25	4.75	5.95
12 inches long	2.40	2.50	2.85	3.00	3.10	3.15	3.20	3.35	3.65	4.30	4.40	4.95	6.20

CASING FITTINGS

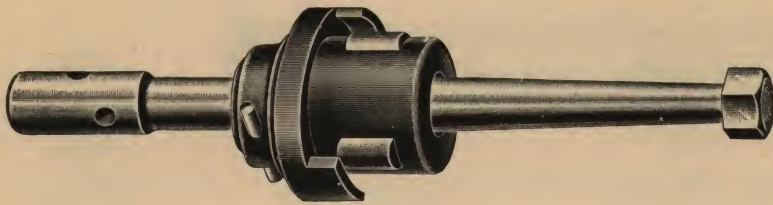
Inside diam., inches	3	3 1/4	3 1/2	3 3/4	4	4 1/4	4 1/2	4 3/4	5	5 3/16	5 3/8	6 1/4	6 5/8
Elbows	\$1.10	\$1.35	\$1.80	\$1.80	\$2.50	\$2.50	\$3.00	\$3.00	\$3.50	\$4.00	\$4.00	\$ 7.00	\$ 7.00
Tees	1.50	2.00	2.50	2.50	3.50	3.50	4.00	4.25	5.00	5.50	5.50	10.00	10.00
Crosses	2.20	2.70	3.50	3.50	5.00	5.00	5.70	6.00	7.00	7.80	7.80	14.00	14.00
Plugs	.50	.75	.85	.85	1.35	1.35	1.75	1.75	2.00	2.40	2.40	3.75	3.75
Bushings	.60	.80	1.00	1.00	1.50	1.50	1.85	1.85	2.00	2.50	2.50	3.75	3.75
Flange unions	2.25	2.75	3.15	3.15	4.50	4.50	5.00	5.00	5.50	6.50	6.50	8.00	8.00
Locknuts	.50	.70	.95	.95	1.25	1.25	1.35	1.35	1.50	1.90	1.90	2.50	2.50
Ret. bends, close	3.00	4.00	5.00	5.00	6.00	6.50	.....	.....	.....	.....	.....	.....	.....
Ret. bends, open	3.75	4.50	5.75	5.75	8.00	8.00	.....	.....	.....	.....	.....	.....	.....
Reducers	1.20	1.50	2.00	2.00	2.75	2.75	3.00	3.00	3.50	4.00	4.00	8.00	8.00
Caps	.80	1.10	1.30	1.30	1.60	1.60	2.00	2.00	2.15	2.35	2.35	4.00	4.00
Y's	3.25	4.50	6.00	6.00	8.00	8.00	9.00	9.00	10.00	12.00	12.00	17.00	17.00
5 3/8-inch caps, with two holes for 2-inch pipe													\$1.50
5 3/8-inch bushings, with two holes for 2-inch pipe													1.50

SEAMLESS DRAWN BRASS TUBING, IRON PIPE SIZE

Order by inside diameter.

Inside diameter, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Outside diameter, inches	.405	.540	.675	.840	1.05	1.315	1.66	1.90	2.375	2.875	3.50
Length about	12	12	12	12	12	12	12	12	12	12	12
Approximate weight per foot	1/4	1/2	3/4	1	1 1/4	1 3/4	2 1/2	3	4	5 3/4	8 1/4

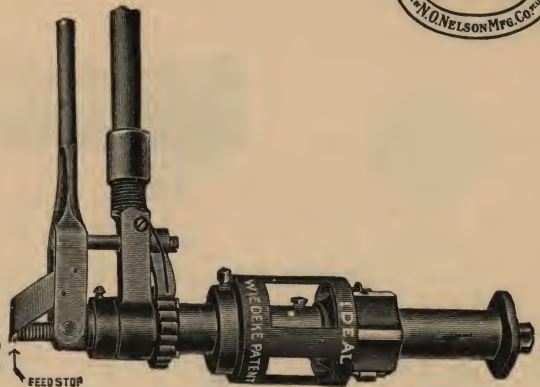
Prices on application.



2768 N

DUDGEON TUBE EXPANDER, PLATE 2768 N

Diameter, inches..	1	1¼	1½	1¾	1⅞	2	2¼	2½
Each.....	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$12.00	\$14.00
Mandrels, each...	1.00	1.50	2.00	2.00	2.50	2.50	3.00	3.50
Rolls (set of three), each....	.50	.60	.70	.80	.90	1.00	1.15	1.30

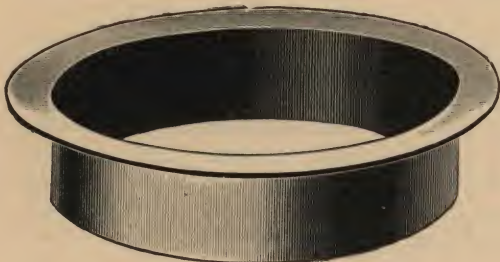


2769 N

Diameter, inches	2¾	3	3¼	3½	3¾	4	4¼	4½
Each	\$16.00	\$18.00	\$20.00	\$23.00	\$25.00	\$30.00	\$35.00	\$40.00
Mandrels, each	3.50	4.00	4.50	5.00	5.75	6.50	8.00	8.00
Rolls (set of three), each.....	1.45	1.60	1.75	2.00	2.25	2.50	3.50	3.50

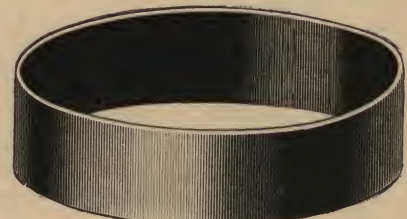
IDEAL SELF-FEED TUBE CLEANER, PLATE 2769 N

Diameter, inches	2	2¼	2½	2¾	3	3¼	3½	4	4½	5	5½	6
Complete, each	\$15.00	\$16.00	\$17.00	\$18.00	\$22.00	\$22.50	\$23.00	\$24.00	\$37.00	\$39.00	\$39.50	\$40.00



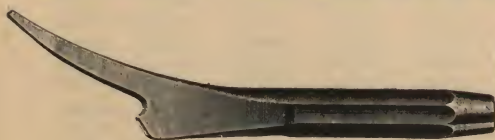
2770 N

COPPER FERRULES, PLATE 2770 N AND PLATE 2770½ N



2770½ N

Thickness of copper, inch.....	1/32	3/64	1/16	5/64	3/32	7/64	1/8
Inside diameter 1 inch, width 1/2 inch, per 100.....	\$ 5.10	\$ 7.50	\$ 9.50	\$ 11.75	\$ 13.50	\$ 15.50	\$ 16.50
Inside diameter 1 inch, width 5/8 inch, per 100.....	6.30	9.30	11.75	14.50	16.50	19.00	20.00
Inside diameter 1¼ inch, width 1/2 inch, per 100.....	6.30	9.30	11.75	14.50	16.50	19.00	20.00
Inside diameter 1¼ inch, width 5/8 inch, per 100.....	7.80	11.60	14.50	18.25	20.50	23.50	24.75
Inside diameter 1½ inch, width 1/2 inch, per 100.....	7.50	11.40	14.00	17.75	19.50	23.00	24.00
Inside diameter 1½ inch, width 5/8 inch, per 100.....	9.30	14.20	17.00	21.75	25.00	28.50	29.75
Inside diameter 1¾ inch, width 1/2 inch, per 100.....	8.70	13.20	16.25	20.50	22.50	26.00	27.25
Inside diameter 1¾ inch, width 5/8 inch, per 100.....	10.80	16.40	20.25	25.50	28.50	33.00	34.75
Inside diameter 1¾ inch, width ¾ inch, per 100.....	12.90	19.60	24.25	30.50	34.50	40.00	42.00
Inside diameter 1⅞ inch, width 1/2 inch, per 100.....	9.30	14.20	17.00	21.75	25.00	28.50	30.00
Inside diameter 1⅞ inch, width 5/8 inch, per 100.....	11.60	17.70	21.50	27.00	31.00	35.50	37.50
Inside diameter 1⅞ inch, width ¾ inch, per 100.....	13.90	21.20	26.00	32.25	37.00	42.50	44.75
Inside diameter 2 inch, width 1/2 inch, per 100.....	9.80	14.90	18.25	23.00	25.50	30.00	31.50
Inside diameter 2 inch, width 5/8 inch, per 100.....	12.30	18.60	23.00	28.75	32.00	37.50	39.50
Inside diameter 2 inch, width ¾ inch, per 100.....	14.80	22.30	27.75	34.50	38.50	45.00	47.50
Inside diameter 2¼ inch, width 5/8 inch, per 100.....	13.50	20.40	25.25	31.75	36.00	41.50	43.50
Inside diameter 2¼ inch, width ¾ inch, per 100.....	16.30	24.60	30.50	38.25	43.00	50.00	52.50
Inside diameter 2¼ inch, width 7/8 inch, per 100.....	19.10	28.80	35.75	44.75	50.00	58.50	61.50
Inside diameter 2½ inch, width 1 inch, per 100.....	21.90	33.00	41.00	51.25	57.00	67.00	70.50
Inside diameter 2½ inch, width 5/8 inch, per 100.....	15.00	22.80	28.25	35.75	39.50	46.50	49.00
Inside diameter 2½ inch, width ¾ inch, per 100.....	18.10	27.40	34.00	42.75	47.50	55.50	58.50
Inside diameter 3 inch, width ¾ inch, per 100.....	21.90	33.00	41.00	51.00	57.00	66.50	70.00
Inside diameter 3 inch, width 7/8 inch, per 100.....	25.50	38.40	47.75	59.50	66.50	77.50	81.50
Inside diameter 3 inch, width 1 inch, per 100.....	29.10	43.80	54.50	68.00	76.00	88.50	93.25
Inside diameter 3¼ inch, width ¾ inch, per 100.....	23.70	35.70	44.25	55.50	62.00	72.00	75.75
Inside diameter 3¼ inch, width 7/8 inch, per 100.....	27.60	41.60	51.50	64.50	72.00	84.00	88.50
Inside diameter 3¼ inch, width 1 inch, per 100.....	31.50	47.50	58.75	73.50	82.00	96.00	101.25
Inside diameter 3½ inch, width ¾ inch, per 100.....	24.60	37.00	45.75	57.25	64.00	75.00	79.00
Inside diameter 3½ inch, width 7/8 inch, per 100.....	29.30	44.00	54.50	68.25	76.00	89.00	93.75
Inside diameter 3½ inch, width 1 inch, per 100.....	34.00	51.00	63.25	79.25	88.00	103.00	108.50
Inside diameter 4 inch, width 7/8 inch, per 100.....	33.60	50.70	63.00	79.00	88.00	103.00	108.50
Inside diameter 4 inch, width 1 inch, per 100.....	38.40	57.90	72.00	90.25	100.00	117.00	123.25
Inside diameter 4 inch, width 1¼ inch, per 100.....	48.00	72.30	90.00	112.75	124.00	145.00	153.00



2771 N

BEADING TOOL, PLATE 2771 N

Each \$0.75



2772 N

BOILER MAKERS' CAULKING TOOLS, PLATE 2772 N AND PLATE 2773 N

Each \$0.75



2773 N



2774 N

SPIRAL RIVETED PRESSURE PIPE, PLATE 2774 N

Inside Diameter, Inches	Thickness, U. S. Standard Gauge	Asphalt Coated		Approximate Weight in Pounds per Foot As- phalited	Approximate Bursting Strength, Pounds per Square Inch	Inside Diameter, Inches	Thickness, U. S. Standard Gauge	Asphalt Coated		Approximate Weight in Pounds per Foot As- phalited	Approximate Bursting Strength, Pounds per Square Inch
			Galvanized						Galvanized		
3	20* per foot	\$0.354	\$0.474	1.9	1500	13	16* per foot	\$ 1.60	\$ 2.25	11.4	575
3	18† per foot	.392	.527	2.3	2000	13	14† per foot	1.86	2.59	14.1	720
4	18* per foot	.505	.680	3.0	1500	14	14* per foot	2.00	2.91	15.9	670
4	16† per foot	.520	.728	3.7	1875	14	12† per foot	2.77	3.89	22.2	940
5	18* per foot	.613	.826	3.7	1200	14	12† per foot	2.77	3.89	22.2	940
5	16† per foot	.631	.882	4.5	1500	15	14* per foot	2.17	3.12	17.0	625
6	16* per foot	.744	1.040	5.3	1250	15	12† per foot	2.97	4.16	23.7	875
6	14† per foot	.867	1.207	6.6	1560	16	14* per foot	2.36	3.33	18.1	585
7	16* per foot	.870	1.216	6.2	1070	16	12† per foot	3.15	4.43	25.2	820
7	14† per foot	1.012	1.410	7.7	1340	18	14* per foot	2.63	3.66	19.9	520
8	16* per foot	.995	1.395	7.1	935	18	12† per foot	3.40	4.84	27.6	730
8	14† per foot	1.161	1.620	8.8	1170	20	14* per foot	2.92	4.06	22.1	470
9	16* per foot	1.116	1.564	8.0	835	20	12† per foot	3.82	5.37	30.6	660
9	14† per foot	1.300	1.812	9.9	1045	22	12* per foot	4.21	5.91	33.7	595
10	16* per foot	1.237	1.731	8.8	750	22	10† per foot	5.15	7.26	42.2	765
10	14† per foot	1.445	2.013	11.0	935	24	12* per foot	4.47	6.41	36.5	540
11	16* per foot	1.354	1.897	9.7	680	24	10† per foot	5.59	7.88	45.7	705
11	14† per foot	1.576	2.198	12.0	850						
12	16* per foot	1.477	2.067	10.6	625						
12	14† per foot	1.719	2.395	13.0	780						

* Denotes standard thickness for spiral riveted pipe.
† Extra heavy.

Working pressure should not be more than 25 per cent of the ultimate strength or bursting pressure.
Above prices are for plain end pipe without flanges.



2775 N

FLANGED FITTINGS FOR SPIRAL RIVETED PIPE, PLATE 2775 N

Price, each, Faced and Drilled

Size, Inches	90° Elbows		45° Elbows		Tees		Reducing Tees		Crosses		Y Branches		Flanges	
	Black	Galvanized	Black	Galvanized	Black	Galvanized	Black	Galvanized	Black	Galvanized	Black	Galvanized	Black	Galvanized
3	\$ 2.25	\$ 2.80	\$1.95	\$ 2.35	\$ 3.60	\$ 4.40	\$ 4.00	\$ 4.75	\$ 4.80	\$ 5.85	\$.....	\$.....	\$0.85	\$1.25
4	3.30	4.00	3.00	3.70	5.30	6.40	5.80	7.00	8.00	9.70	8.00	9.90	1.20	1.75
5	4.60	5.50	4.00	4.90	6.60	8.00	7.30	8.80	9.90	12.00	10.30	12.60	1.40	2.15
6	4.80	6.40	4.20	5.50	7.00	9.20	7.70	9.80	10.20	13.50	12.50	16.50	1.75	2.75
7	6.10	8.00	4.50	6.00	8.50	11.20	9.40	12.00	14.00	19.00	14.00	18.70	2.10	3.30
8	9.30	12.30	7.00	9.50	13.50	18.00	14.80	19.00	24.00	31.00	20.00	27.00	2.95	4.70
9	12.90	17.00	10.50	14.00	17.00	22.50	18.70	24.00	30.00	40.00	29.00	37.50	4.10	6.60
10	14.60	19.20	11.00	15.00	20.00	26.00	22.00	28.00	38.00	50.00	38.00	50.00	4.75	7.60
11	17.90	22.40	15.00	19.50	26.00	34.00	28.00	37.00	46.00	61.00	46.00	61.00	5.45	8.70
12	20.20	26.60	17.00	22.00	31.00	41.00	34.00	44.00	55.00	72.00	54.00	71.00	6.10	9.80
14	30.90	41.70	18.00	24.00	46.00	61.00	50.00	66.00	64.00	86.00	74.00	100.00	8.90	14.50
15	39.50	53.00	22.00	30.00	56.00	76.00	62.00	82.00	80.00	108.00	86.00	116.00	9.80	16.00
16	56.60	76.00	36.00	49.00	84.00	113.50	93.00	122.00	102.00	138.00	125.00	168.00	12.00	19.75
18	67.40	91.00	52.00	70.00	110.00	148.00	121.00	159.00	129.00	174.00	142.00	191.00	16.50	27.00
20	89.20	120.00	62.00	84.00	116.00	157.00	128.00	168.00	146.00	197.00	154.00	208.00	21.75	36.00
22	105.00	142.00	74.00	100.00	153.00	206.00	168.00	222.00	193.00	260.00	197.00	266.00	27.00	45.00
24	132.00	178.00	91.00	122.00	187.00	253.00	206.00	272.00	240.00	325.00	249.00	336.00	30.50	51.00



MALLEABLE IRON RAILING FITTINGS, PLATE 2776 N TO PLATE 2780 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Elbow, each	\$0.15	\$0.18	\$0.20	\$0.35	\$0.45	\$0.72
Side outlet elbow, each	.20	.23	.25	.40	.50	.80
Tee, each	.20	.23	.25	.40	.50	.75
Side outlet tee, each	.30	.33	.35	.45	.55	.90
Cross, each	.30	.33	.35	.45	.58	1.00



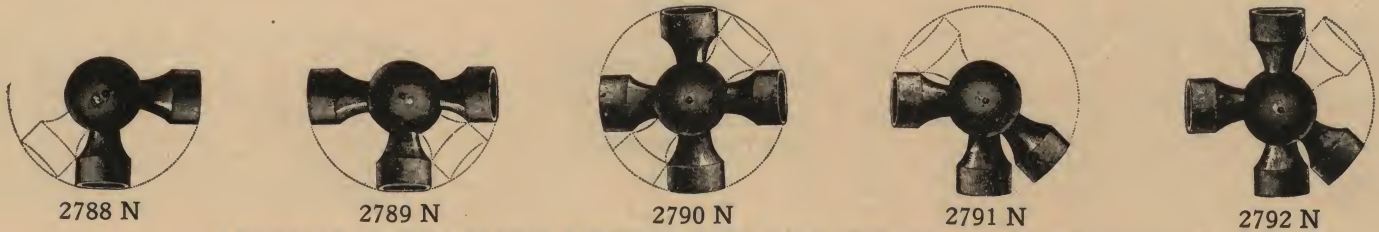
MALLEABLE IRON RAILING FITTINGS, PLATE 2781 N TO PLATE 2785 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Side outlet cross, each	\$0.35	\$0.38	\$0.40	\$0.50	\$0.65	\$1.35
Flange, each	.14	.15	.15	.20	.28	.30
Square flange, each	.16	.18	.20	.40	.50	.90
Acorn, each	.16	.18	.20	.25	.35	.90

BRASS ACORN CAPS AND HINGES, PLATE 2786 N AND PLATE 2787 N

Size, inches	3/4	1	1 1/4	1 1/2
Finished brass acorn caps, each	\$0.80	\$1.00	\$1.40	\$1.80
Hinge for pipe gates	1.00	1.25	1.50	2.00

Railing fittings will be furnished tapped as shown in cuts, or right on all openings, when so specified, at regular price. Tapped otherwise will be charged at 15 per cent additional, net.



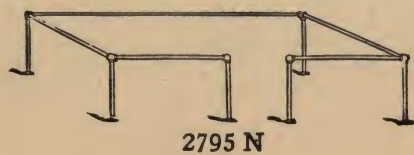
ADJUSTABLE RAILING FITTINGS, PLATE 2788 N TO PLATE 2792 N

Size, inches	1	1 1/4	1 1/2	2
Plate 2788 N—Style A, each	\$1.10	\$1.25	\$1.70	\$2.25
Plate 2789 N—Style B, each	1.30	1.50	2.00	2.50
Plate 2790 N—Style C, each	1.50	1.75	2.35	2.75
Plate 2791 N—Style D, each	1.30	1.60	2.15	2.50
Plate 2792 N—Style E, each	1.50	1.85	2.50	2.75



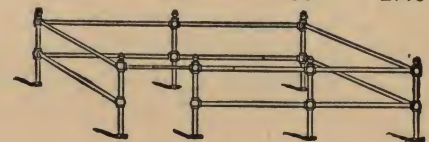
ADJUSTABLE RAILING FITTINGS, PLATE 2793 N AND PLATE 2794 N

Size, inches	1	1 1/4	1 1/2	2
Plate 2793 N—Style F, each	\$0.90	\$1.10	\$1.50	\$2.15
Plate 2794 N—Style G, each	1.00	1.20	1.60	2.40



2795 N

Two styles of railings as erected with our fittings. We are prepared to erect all kinds of railings upon receipt of specifications.



2796 N



MALLEABLE IRON FITTINGS
Classification Adopted June 5, 1907

PRICES

Class	A	B	*C
Black, per pound.....	\$0.40	\$0.20	\$0.12
Galvanized, per pound.....	.50	.28	.19

ELBOWS

Class	A	B	*C
	$\frac{1}{8} \times \frac{1}{8}$	$\frac{3}{8} \times \frac{1}{4}$	$\frac{3}{4}$ and larger
	$\frac{1}{4} \times \frac{1}{8}$	$\frac{1}{2} \times \frac{1}{4}$	
	$\frac{3}{8} \times \frac{1}{8}$	$\frac{1}{4}, \frac{3}{8}, \frac{1}{2},$ $\frac{1}{2} \times \frac{3}{8}$	

RIGHT AND LEFT ELBOWS

Class	A	B	*C
	$\frac{1}{4}, \frac{3}{8}$	$\frac{1}{2}, \frac{3}{4}, 1$	$1\frac{1}{4}$ and larger

45° ELBOWS

Class	A	B	*C
		2 and smaller	$2\frac{1}{2}$ and larger

STREET ELBOWS

Class	A	B	*C
		$\frac{1}{4}$ to $1 \times \frac{3}{4}$ Inclusive	1 and larger

SIDE OUTLET AND DROP ELLS

Class	A	B
		All Sizes

TEES

Class	A	B	*C
	$\frac{1}{8} \times \frac{1}{8}$	$\frac{1}{4}, \frac{3}{8}, \frac{1}{2}$	$\frac{3}{4}$ and larger
	$\frac{1}{8} \times \frac{1}{4}$	$\frac{1}{4} \times \frac{3}{8}$	
	$\frac{1}{4} \times \frac{1}{8}$	$\frac{3}{8} \times \frac{1}{4} \times \frac{1}{4}$	
	$\frac{3}{8} \times \frac{1}{8}$	$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{4}$	
		$\frac{3}{8} \times \frac{1}{4} \times \frac{3}{8}$	
		$\frac{1}{2}$ Reducing	

FOUR WAY AND DROP TEES

Class	A	B
		All Sizes

SERVICE TEES

Class	A	B	*C
		$\frac{1}{2}, \frac{3}{4}$ $1 \times \frac{3}{4} \times 1$	1 and larger

CROSSES

Class	A	B	*C
		$\frac{1}{4}$ to 1, inclusive	$1\frac{1}{4}$ and larger

REDUCING CROSSES

Class	A	B	*C
		1 and smaller	$1\frac{1}{4}$ and larger

RETURN BENDS

Class	A	B	*C
	$\frac{1}{4}$	$\frac{3}{8}$ to 1, inclusive	$1\frac{1}{4}$ and larger

RIGHT AND LEFT RETURN BENDS

Class	A	B
	$\frac{3}{8}, \frac{1}{2}, \frac{1}{8}$	$\frac{3}{4}$ and larger

RIGHT HAND AND RIGHT AND LEFT COUPLINGS

Class	A	B	*C
	$\frac{1}{8}$	$\frac{3}{8}$ to $\frac{3}{4}$, inclusive	1 and larger

REDUCING COUPLINGS

Class	A	B	*C
	$\frac{1}{4} \times \frac{1}{8}$ $\frac{3}{8} \times \frac{1}{8}$	$\frac{3}{8} \times \frac{1}{4}$ to $1 \times \frac{3}{4}$, inclusive	$1\frac{1}{4}$ and larger

CAPS

Class	A	B	C
	$\frac{1}{8}$	$\frac{1}{4}$ to 1, inclusive	$1\frac{1}{4}$ and larger

LOCKNUTS

Class	A	B	C
	$\frac{1}{8}$	$\frac{1}{4}$ to $1\frac{1}{4}$, inclusive	$1\frac{1}{2}$ and larger

**EXTENSION PIECES, WASTE NUTS, CHANDELIER HOOKS, CHANDELIER LOOPS, WALL PLATES,
45° Y BENDS**

Class	A	B	C
		All Sizes	

*Such fittings in Class C as have one or more openings smaller than $\frac{3}{4}$ to be Class B.
The run of tees gives the sizes for the purpose of classification; the outlet being larger does not change it.
In ordering be particular to state whether beaded or plain.
An extra charge will be made for fittings not enumerated in standard list.



2800 N



2801 N



2802 N



2803 N

MALLEABLE IRON FITTINGS, PLATE 2800 N TO PLATE 2803 N

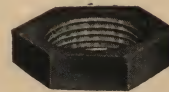
Size, inches.....	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Plate 2800 N—90° Ell, R. H., each.....	\$0.06	\$0.07	\$0.08	\$0.10	\$0.15	\$0.22	\$0.25	\$0.35	\$0.50	\$0.90	\$1.50	\$2.25	\$3.00
Plate 2800 N—90° Ell, R. and L., each.....	.09	.09	.11	.13	.17	.25	.30	.40	.65	....	....	....	....
Plate 2800 N—90° Ell, R. H., galvanized, each..	.08	.09	.11	.14	.20	.32	.40	.60	.90	1.50	2.60	3.75	5.00
Plate 2801 N—60° Ell, R. H., each.....	....	....	....	.13	.17	.25	.30	.45	.65	....	....	....	....
Plate 2801 N—60° Ell, R. H., galvanized, each..	....	....	....	....	....	....	.45	.70	1.05	....	....	....	....
Plate 2802 N—45° Ell, R. H., each.....	....	.08	.10	.12	.18	.26	.36	.54	.82	1.25	2.50	3.25	4.50
Plate 2802 N—45° Ell, R. H., galvanized, each..	....	.12	.15	.20	.25	.40	.50	.85	1.35	1.90	3.75	4.75	6.75
Plate 2803 N—Tee, R. H., each.....	.07	.08	.09	.11	.15	.25	.30	.45	.60	1.05	1.70	2.50	3.40
Plate 2803 N—Tee, R. H., galvanized, each....	.09	.10	.13	.16	.20	.38	.50	.70	1.00	1.90	3.00	4.75	5.75



2804 N



2805 N



2806 N



2807 N

MALLEABLE IRON FITTINGS, PLATE 2804 N TO PLATE 2807 N

Size, inches.....	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Plate 2804 N—Reducers, R. H., each.....	\$0.05	\$0.06	\$0.07	\$0.10	\$0.16	\$0.20	\$0.28	\$0.45	\$0.70	\$1.00	\$1.50	\$1.85
Plate 2804 N—Reducers, R. H., galvanized, each....	.08	.10	.10	.15	.25	.35	.45	.75	1.05	1.65	2.40	3.05
Plate 2805 N—Caps, R. H., each.....	.03	.04	.05	.08	.12	.16	.24	.32	.45	.85	1.00	1.20
Plate 2805 N—Caps, R. H., galvanized, each.....	.04	.05	.08	.12	.17	.24	.38	.52	.76	1.30	1.60	2.00
Plate 2806 N—Locknuts, R. H., each.....	.02	.03	.04	.05	.07	.09	.11	.18	....	....	....	....
Plate 2806 N—Locknuts, R. H., galvanized, each....	.03	.04	.05	.07	.10	.14	.20	.30	....	....	....	....
Plate 2807 N—Return bends, R. H., each.....	....	.16	.18	.25	.35	.50	.75	1.00	....	....	....	....
Plate 2807 N—Return bends, R. H., galvanized, each..	....	.23	.25	.35	.55	.75	1.15	1.65	....	....	....	....
Plate 2807 N—Return bends, R. and L., each.....	....	....	.23	.30	.45	.60	.90	1.25	....	....	....	....



2808 N



2809 N



2810 N



2811 N

MALLEABLE IRON FITTINGS, PLATE 2808 N TO PLATE 2811 N

Sizes, inches.....	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Plate 2808 N—Medium return bends, R. H., each.....	\$....	\$0.16	\$0.18	\$0.25	\$0.35	\$0.50	\$0.75	\$1.00
Plate 2808 N—Medium return bends, R. H., galvanized, each.....	....	.23	.25	.35	.55	.75	1.15	1.65
Plate 2808 N—Medium return bends, R. and L., each.....	....	.23	.30	.45	.60	.90	1.25	1.25
Plate 2809 N—Open return bends, R. H., each.....	....	.20	.30	.50	.65	.85	1.25	1.25
Plate 2809 N—Open return bends, R. H., galvanized, each.....	....	.28	.45	.70	.90	1.25	2.00	2.00
Plate 2809 N—Open return bends, R. and L., each.....	....	.25	.38	.60	.80	1.05	1.55	1.55
Plate 2810 N—90° Street elbows, R. H., each.....	.10	.10	.12	.20	.25	.40	.55	.90
Plate 2810 N—90° Street elbows, R. H., galvanized, each.....	.12	.12	.15	.28	.35	.55	.80	1.30
Plate 2811 N—45° Street elbows, R. H., each.....	.10	.12	.20	.25	.40	.55	.90	.90
Plate 2811 N—45° Street elbows, R. H., galvanized, each.....	.12	.15	.28	.35	.55	.80	1.30	1.30



2812 N



2813 N



2814 N



2815 N

MALLEABLE IRON FITTINGS, PLATE 2812 N TO PLATE 2815 N

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Plate 2812 N—Side outlet ells, R. H., each	\$.08	\$0.10	\$0.18	\$0.30	\$0.45	\$0.60	\$1.00	
Plate 2812 N—Side outlet ells, R. H., galvanized, each	.10	.15	.25	.45	.65	.90	1.50	
Plate 2813 N and Plate 2814 N—Drop ells, right or left, each	.08	.08	....	....	....	....	....	....
Plate 2815 N—Drop ells, female, each	.06	.08	.12	.20	.40	....	....	....
Plate 2815 N—Drop ells, female, galvanized, each	....	.12	.20	.35	.50	....	....	....



2816 N



2817 N



2818 N



2819 N

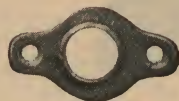
MALLEABLE IRON FITTINGS, PLATE 2816 N TO PLATE 2819 N

Size, inches	1/4	1/4x3/8	3/8	1/2	1/2x3/8	3/4
Plate 2816 N—Long drop ells, R. H., each	\$.10	\$0.10	\$0.10	\$.15	\$0.18	\$.25
Plate 2816 N—Long drop ells, R. H., galvanized, each	.18	.18	.18	.27	.27	.35
Plate 2817 N—Four-way tees, R. H., each	.08	....	.12	.14	....	.20
Plate 2817 N—Four-way tees, R. H., galvanized, each	.12	....	.17	.20	....	.28
Plate 2818 N—Female drop tees, R. H., each	....	....	.10	.14	....	.22
Plate 2818 N—Female drop tees, R. H., galvanized, each	....	....	.15	.25	....	.40
Plate 2819 N—Service tees, R. H., each	....	....	.12	.15	....	.25
Plate 2819 N—Service tees, R. H., galvanized, each	....	....	.15	.20	....	.35

Size, inches	3/4x3/8	1	1 1/4	1 1/2	2
Plate 2816 N—Long drop ells, R. H., each	\$.25	\$.35	\$.50	\$.80	1.25
Plate 2816 N—Long drop ells, R. H., galvanized, each	.35	.50	.70	1.10	1.75
Plate 2817 N—Four-way tees, R. H., each	....	.35	.50	.80	1.25
Plate 2817 N—Four-way tees, R. H., galvanized, each	....	.50	.70	1.10	1.75
Plate 2818 N—Female drop tees, R. H., each	....	.30	....	....	....
Plate 2818 N—Female drop tees, R. H., galvanized, each	....	.55	....	....	....
Plate 2819 N—Service tees, R. H., each	....	.35	.50	.75	1.15
Plate 2819 N—Service tees, R. H., galvanized, each	....	.50	.70	1.10	1.65



2820 N



2821 N



2822 N



2823 N



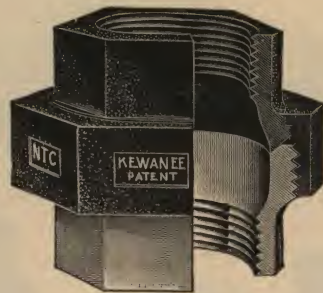
2824 N

MALLEABLE IRON FITTINGS, PLATE 2820 N TO PLATE 2824 N

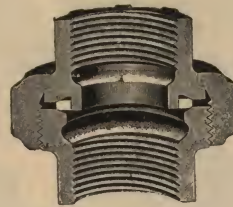
Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Plate 2820 N—Extension pieces, R. H., each	\$.06	\$0.09	\$0.12	\$.18	\$.25	\$.35	\$.50	\$.75
Plate 2820 N—Extension pieces, R. H., galvanized, each	.09	.13	.18	.25	.35	.50	.75	1.00
Plate 2821 N—Waste nuts, each	.04	.05	.06	.08	.10	.15	.25	....
Plate 2821 N—Waste nuts, galvanized, each	.08	.10	.12	.16	.20	.30	.50	....
Plate 2822 N—Wall plates, each	....	.12	.16	.30	....	....	....	....
Plate 2823 N—Y branches, each	....	....	.40	.50	.60	.80	1.00	1.70
Plate 2823 N—Y branches, galvanized, each	....	....	.60	.75	.90	1.25	1.50	2.50
Plate 2824 N—Couplings, R. and L., each	.04	.06	.08	.12	.16	.25	.36	.52
Plate 2824 N—Couplings, R. and L., galvanized, each	.06	.09	.10	.17	.25	.35	.55	.75



2825 N



2826 N



2827 N



2828 N

MALLEABLE IRON UNIONS, PLATE 2825 N

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Black, each	\$0.18	\$0.20	\$0.22	\$0.27	\$0.33	\$0.46	\$0.58	\$0.75	\$1.55	\$2.10
Galvanized, each	.27	.30	.33	.40	.50	.70	.90	1.15	2.35	3.15

KEWANEE BRASS AND IRON GROUND BALL JOINT UNIONS, PLATE 2826 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Black, each	\$0.18	\$0.19	\$0.22	\$0.27	\$0.40	\$0.48	\$0.66	\$0.80	\$1.14
Galvanized, each	.22	.23	.26	.34	.49	.60	.82	1.10	1.40

C. D. RAILROAD UNIONS, PLATE 2827 N

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Black, each	\$0.30	\$0.40	\$0.50	\$0.60	\$0.80	\$1.20	\$1.60	\$2.00	\$3.20	\$4.80
Galvanized, each	.45	.60	.75	.90	1.20	1.80	2.40	3.00	4.80	6.20

WASHERS FOR PACKING UNIONS

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Lead, per 100	\$0.55	\$0.55	\$0.60	\$0.65	\$0.70	\$0.85	\$1.00	\$1.35
Rubber, per 100	.60	.60	.65	.75	1.00	1.25	1.50	2.00
Copper gaskets, with graphite coating, each	.06	.08	.09	.11	.15	.18	.21	.28

MALLEABLE IRON FLANGE UNIONS, PLATE 2828 N

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Black, each	\$1.40	\$1.60	\$2.00	\$2.50	\$3.00	\$3.50	\$4.40	\$ 5.25	\$ 6.00	\$ 7.00	\$ 8.00	\$ 9.00
Galvanized, each	2.80	3.20	4.00	5.00	6.00	7.00	8.80	10.50	12.00	14.00	16.00	18.00



2829 N



2829 1/2 N



2830 N



2830 1/2 N

UNION ELBOWS AND TEES, PLATE 2829 N TO PLATE 2830 1/2 N

Size, inches	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Plate 2829 N —Elbow, with female union, black, each	\$0.45	\$0.48	\$0.62	\$0.72	\$1.05	\$1.20	\$1.80	\$3.30
Plate 2829 N —Elbow, with female union, galvanized, each	.70	.72	.93	1.08	1.60	1.80	2.70	4.95
Plate 2829 1/2 N—Elbow, with male union, black, each	.40	.42	.54	.63	.90	1.05	1.55	2.85
Plate 2829 1/2 N—Elbow, with male union, galvanized, each	.60	.63	.81	.95	1.35	1.58	2.35	4.30
Plate 2830 N —Tee, with female union, black, each	.50	.52	.65	.80	1.10	1.30	1.95	3.70
Plate 2830 N —Tee, with female union, galvanized, each	.75	.78	1.00	1.20	1.65	1.95	2.95	5.55
Plate 2830 1/2 N—Tee, with male union, black, each	.43	.45	.57	.70	.95	1.15	1.70	3.20
Plate 2830 1/2 N—Tee, with male union, galvanized, each	.65	.68	.86	1.05	1.45	1.75	2.55	4.80



2831 N



2832 N



2833 N



2834 N



2835 N



2836 N



2837 N

EXTRA HEAVY MALLEABLE IRON FITTINGS, PLATE 2831 N TO PLATE 2836 N
For 250 Pounds Working Pressure.

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Elbows, each	\$0.20	\$0.25	\$0.30	\$0.35	\$0.40	\$0.55	\$0.70	\$0.90
45° Elbows, each	.25	.30	.35	.42	.50	.65	.85	1.10
Long-turn elbows, each	.....	.....	.....	.....	.64	.80	1.10	1.60
Tees, each	.30	.40	.45	.50	.60	.80	1.05	1.35
Couplings, each	.20	.25	.30	.35	.40	.55	.70	.90
Crosses, each	.60	.80	.90	1.00	1.20	1.60	2.10	2.70

Size, inches	2 1/2	3	3 1/2	4	4 1/2	5	6
Elbows, each	\$1.50	\$2.40	\$3.25	\$4.25	\$5.50	\$6.50	\$9.50
45° Elbows, each	1.85	2.85	4.00	5.00	.....	7.50	10.50
Long-turn elbows, each	2.40	4.50	6.50	7.00	.....	13.00	17.50
Tees, each	2.25	3.60	5.00	6.50	8.25	9.75	14.25
Couplings, each	1.50	2.40	3.25	4.25	.....	6.50	9.50
Crosses, each	4.50	7.20	10.00	13.00	.....	19.50	28.50

OCTA UNIONS, PLATE 2837 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Octa unions, each	\$0.22	\$0.23	\$0.26	\$0.34	\$0.49	\$0.60	\$0.82	\$1.10	\$1.40	\$2.75	\$3.50	\$6.30	\$7.50



2838 N



2839 N



2840 N



2841 N



2842 N

MALLEABLE IRON FLAT BAND FIRE LINE FITTINGS, PLATE 2838 N TO PLATE 2842 N
For 250 Pounds Working Pressure.

90° Elbows	45° Elbows	Tees		Couplings
2 1/2	2 1/2	2 1/2	4	4-inch, plain
3	3	2 1/2 x 2	1 1/2 x 4	6-inch, band
3 x 2	4	3	4 x 1 1/2	.....
4	5	3 x 1 1/2	4 x 2	.....
4 x 1 1/2	6	3 x 2	4 x 2 1/2	.....
4 x 2	.....	2 1/2 x 2 1/2 x 1 1/2	4 x 3	.....
6	.....	3 x 2 x 2	5 x 2 1/2	.....
.....	.....	3 x 2 x 3	5 x 4	.....
.....	.....	3 x 2 1/2 x 2 1/2	5	.....
.....	.....	3 x 2 1/2 x 3	6	.....
.....	.....	3 x 3 x 2 1/2	6 x 2 1/2	.....
.....	.....	.....	6 x 4	.....

The above cuts show a line of malleable iron fittings which are designed for use in high-pressure and salt-water service.

We make to order any sizes not listed above that the requirements of the trade may demand.
Prices quoted on application.



2843 N



2844 N



2845 N



2846 N



2847 N



2848 N



2849 N

CAST IRON ELL AND 45° ELL, PLATE 2843 N TO PLATE 2845 N

Size, inches.....	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Elbows, R. H., each.....	\$0.05	\$0.05	\$0.06	\$0.08	\$0.10 1/2	\$0.16	\$0.20	\$0.28	\$0.50	\$0.75	\$1.05
Elbows, R. and L., each.....	.06	.06	.07	.09	.12	.18	.23	.32	.60	.85	....
Elbows, reducing, each.....	....	....	.07	.09	.12	.18	.23	.32	.60	.85	1.20
Elbows, pitched, each.....	....	....	....	.10	.13	.20	.25	.35	.65	1.00	1.30
45° elbows, each.....	....	.06	.07	.10	.12	.19	.24	.34	.60	.90	1.25
Size, inches.....	4	4 1/2	5	6	7	8	9	10	12	12	12
Elbows, R. H., each.....	\$1.20	\$1.75	\$2.00	\$2.75	\$4.70	\$6.75	\$9.00	\$13.50	\$20.00	\$20.00	\$20.00
Elbows, reducing, each.....	1.40	2.00	2.30	3.15	5.40	7.75	10.50	15.50	23.00	23.00	23.00
45° elbows, each.....	1.45	2.20	2.50	3.45	5.90	8.50	11.25	17.00	25.00	25.00	25.00

CAST IRON TEES, PLATE 2846 N AND PLATE 2847 N

Size, inches.....	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Tees, each.....	\$0.08	\$0.08	\$0.09	\$0.12	\$0.15	\$0.23	\$0.29	\$0.41	\$0.73	\$1.10
Tees, reducing, each.....	....	....	.10	.14	.17	.27	.33	.47	.83	1.25
Size, inches.....	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Tees, each.....	\$1.50	\$1.75	\$2.55	\$3.00	\$4.00	\$6.80	\$9.75	\$13.00	\$19.50	\$29.00
Tees, reducing, each.....	1.75	2.00	2.95	3.50	4.60	7.80	11.25	15.00	22.50	33.50

CAST IRON CROSS, PLATE 2848 N

Size, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3		
Crosses, each.....	\$0.16	\$0.22	\$0.27	\$0.42	\$0.53	\$0.75	\$1.30	\$2.00		
Crosses, reducing, each.....	.18	.25	.30	.46	.60	.83	1.45	2.20		
Size, inches.....	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Crosses, each.....	\$2.70	\$3.15	\$4.60	\$5.50	\$7.25	\$12.25	\$17.50	\$23.50	\$35.00	\$52.50
Crosses, reducing, each.....	3.00	3.50	5.10	6.00	8.00	13.50	19.25	26.00	38.50	58.00

CAST IRON Y BEND, PLATE 2849 N

Size, inches.....	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	7	8
Y bends, each.....	\$0.34	\$0.54	\$0.66	\$0.94	\$1.66	\$2.50	\$3.50	\$4.00	\$7.00	\$9.20	\$15.60	\$22.50
Y bends, reducing, each.....	.40	.62	.76	1.08	1.90	2.90	4.00	4.60	8.00	10.60	18.00	26.00



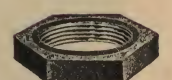
2850 N



2851 N



2852 N



2853 N

CAST IRON OFFSET, PLATE 2850 N

Size, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
To offset, 4 inches, each.....	\$0.45	\$0.70	\$1.00	\$1.20	\$1.80	\$3.00	\$4.00	\$5.00	\$6.00	\$8.00	\$10.00
To offset, 6 inches, each.....	.67	1.05	1.50	1.80	2.70	4.50	6.00	7.50	9.00	12.00	15.00
To offset, 8 inches, each.....	.90	1.40	2.00	2.40	3.60	6.00	8.00	10.00	12.00	16.00	20.00

CAST IRON CAP, PLATE 2851 N

Size, inches.....	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Price, each.....	\$0.40	\$0.54	\$0.75	\$0.87	\$1.05	\$1.20	\$1.55	\$2.50	\$2.85	\$4.75	\$5.50	\$7.00

CAST IRON REDUCER, PLATE 2852 N

Size, inches.....	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Price, each.....	\$0.60	\$0.80	\$1.00	\$1.35	\$1.85	\$2.00	\$2.70	\$5.35	\$6.75	\$8.35	\$10.00	\$15.00

CAST IRON LOCKNUT, PLATE 2853 N

Size, inches.....	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Price, each.....	\$0.27	\$0.34	\$0.47	\$0.64	\$0.85	\$0.90	\$1.30	\$1.70	\$2.35	\$2.70	\$3.00	\$4.00

Galvanized fittings double above lists.



2854 N



2855 N



2856 N



2857 N

CAST IRON RETURN BENDS, PLATE 2854 N TO PLATE 2857 N

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Close Pattern..	Center to center, inches.....	1 1/2	1 3/4	2 1/4	2 1/2	3 1/4	3 3/4
	Right hand, each.....	\$0.20	\$0.22	\$0.28	\$0.40	\$0.57	\$1.20
	Right and left, each.....	.23	.26	.33	.46	.66	1.40
Open Pattern..	Center to center, inches.....	1 7/8	2 3/8	3	3 1/2	4 1/2	5 1/2
	Right hand, each.....	\$0.26	\$0.30	\$0.40	\$0.55	\$0.80	\$1.35
	Right and left, each.....	.30	.35	.46	.64	.92	1.55
Wide Pattern..	Pipe size, inches.....	1	1	1	1	1 1/4	1 1/2
	Center to center, inches.....	3	4	5	6	8	4
	Right hand, each.....	\$0.45	\$0.50	\$0.60	\$0.75	\$1.00	\$1.25
Back Outlet...	Pipe size, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2
	Center to center, inches.....	1 7/8	2 1/4	2 1/4	2 1/2	3 1/4	5 1/2
	Each	\$0.38	\$0.42	\$0.60	\$0.80	\$1.15	\$2.00

Galvanized, double above lists.



2858 N



2859 N



2860 N

CAST IRON ECCENTRIC TEES, PLATE 2858 N AND PLATE 2859 N

The object of these fittings is to prevent lodging places for water, which always exist where double reducing fittings are used. In ordering these fittings always accompany order with a sketch showing permanent position.

When right and left tees are wanted, state which opening is to be tapped left-hand. These fittings can always be furnished to order. Prices on application.

OFFSET REDUCING COUPLING, PLATE 2860 N

Size, inches	1x3/4	1 1/4x1	1 1/2x1 1/4	2x1 1/2	2 1/2x2	3x2 1/2	3 1/2x3	4x3	5x4
Each	\$0.60	\$0.70	\$0.90	\$1.10	\$1.80	\$2.50	\$3.00	\$4.00	\$6.00



2861 N



2861 1/2 N



2862 N

ECCENTRIC REDUCER, PLATE 2861 N

Size, inches	2x1 1/2	2 1/2x2	3x2 1/2	3 1/2x3	4x3 1/2	4 1/2x4	5x4 1/2	6x5
Each	\$1.00	\$1.50	\$2.40	\$3.00	\$4.00	\$5.00	\$6.00	\$8.00

ECCENTRIC BUSHING, PLATE 2861 1/2 N

Size, inches	2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8	10	12
Each	\$0.27	\$0.42	\$0.60	\$0.80	\$1.00	\$1.50	\$1.85	\$2.50	\$3.75	\$5.50	\$7.50	\$10.00

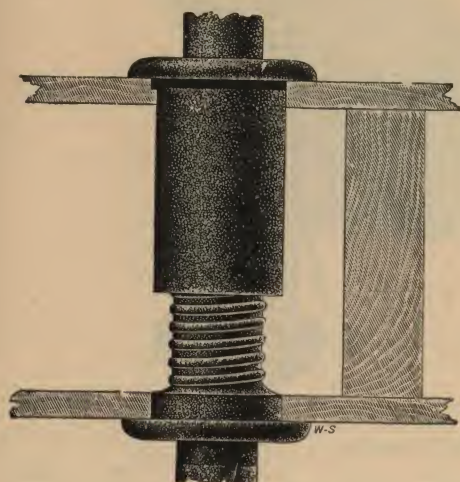
LONG SCREW, WITH COUPLING AND LOCKNUT, PLATE 2862 N

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Standard length, inches.....	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	7	8	8 1/2	9
Plain, each	\$0.30	\$0.35	\$0.40	\$0.55	\$0.75	\$1.00	\$1.30	\$1.70	\$2.70	\$3.70	\$5.40	\$6.60
Galvanized, each .....	.35	.40	.50	.66	1.00	1.25	1.60	2.10	3.10	4.70	6.75	8.25

Long screws, longer than standard, made to order and charged as cut pipe, with threads, couplings and locknuts extra. Long screws made to order from extra heavy pipe at double above price.



VOSBURG ADJUSTABLE FLOOR THIMBLE AND CEILING PLATE COMBINED, PLATE 2863 N
(Patented)



2863 N

In ordering, always specify No. 1 or No. 2, black or nickel plated.
No. 1 can be used on floors 9 inches to 16 inches thick.
No. 2 can be used on floors 15 inches to 22 inches thick.
Nickel plated thimbles have both flanges polished and nickel plated.

No. 1, minimum length, 9 inches; maximum length, 16 inches.

Iron pipe size, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2
Cast iron, plain, each	\$0.50	\$0.60	\$0.80	\$1.00	\$1.20	\$1.40
Cast iron, nickel plated, each....	1.20	1.30	1.50	1.70	1.90	2.20
Iron pipe size, inches.....	3	3 1/2	4	4 1/2	5	6
Cast iron, plain, each	\$1.65	\$2.00	\$2.75	\$4.25	\$4.75	\$6.00
Cast iron, nickel plated, each....	2.75	3.20	4.15	5.75	6.35	7.80

No. 2, minimum length, 15 inches; maximum length, 22 inches.

Iron pipe size, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2
Cast iron, plain, each	\$0.60	\$0.70	\$0.90	\$1.10	\$1.30	\$1.55
Cast iron, nickel plated, each....	1.30	1.40	1.60	1.80	2.00	2.35
Iron pipe size, inches.....	3	3 1/2	4	4 1/2	5	6
Cast iron, plain, each	\$1.80	\$2.15	\$3.00	\$4.50	\$5.00	\$6.50
Cast iron, nickel plated, each....	2.90	3.35	4.40	6.00	6.60	8.30



2864 N



2865 N



2866 N



2867 N

BUSHINGS AND PLUGS, PLATE 2864 N TO PLATE 2867 N

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Bushings, plain, each	\$.04	\$0.04	\$0.04	\$0.05	\$0.06	\$0.07	\$0.09	\$0.14	\$0.21	\$0.30
Bushings, faced, each .....	.08	.09	.11	.13	.17	.22	.32	.48	.70	.70
Plugs, plain, each .....	.02	.02	.02	.03	.04	.05	.07	.10	.18	.25
Plugs, countersunk, each .....	.04	.04	.06	.08	.09	.11	.15	.30	.40	.40
Size, inches	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Bushings, plain, each	\$0.40	\$0.50	\$0.75	\$0.93	\$1.25	\$1.87	\$2.75	\$3.25	\$3.75	\$5.00
Bushings, faced, each	1.20	1.50	2.10	2.60	3.75	...	...	...	...	...
Plugs, plain, each.....	.38	.42	.65	.88	1.20	1.85	2.75	3.25	3.75	5.00

Bushings, reducing one size only, up to and including 2 1/2 inches, are malleable. C. I. bushings reduce one or more sizes.

Galvanized fittings, double above lists.



2868 N



2869 N



2870 N

RADIATOR BUSHING, PLATE 2868 N

Size, inches	2x1/2	2x3/4	2x1	2x1 1/4	2x1 1/2
Each	\$0.18	\$0.18	\$0.17	\$0.16	\$0.15

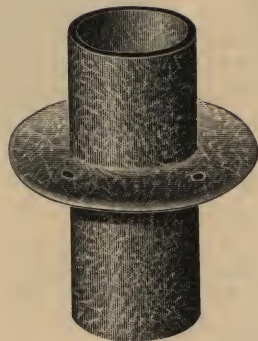
RADIATOR PLUG, PLATE 2869 N

Size, inches	1 1/2	2
Each	\$0.10	\$0.14

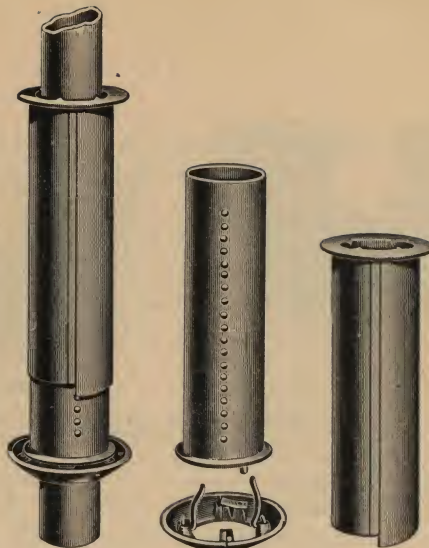
FLANGE UNION, PLATE 2870 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Plain, each	\$0.40	\$0.46	\$0.52	\$0.64	\$0.78	\$1.00	\$1.25	\$1.50	\$1.80
Galvanized, each .....	.80	.92	1.04	1.28	1.56	2.00	2.50	3.00	3.60
Size, inches	4	4 1/2	5	6	7	8	9	10	12
Plain, each	\$2.10	\$2.70	\$3.15	\$3.95	\$ 5.50	\$ 7.00	\$10.00	\$11.50	\$16.00
Galvanized, each	4.20	5.40	6.30	7.90	11.00	14.00	20.00	23.00	32.00

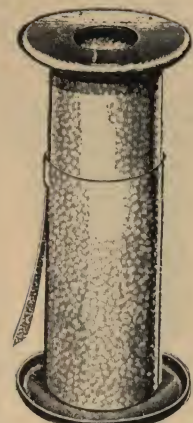
For gaskets, see page 93.



2871 N



2872 N



2873 N

CAST IRON UNDERWRITER FLOOR SLEEVE, PLATE 2871 N

Size, inches	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8	10	12
Each	\$0.60	\$0.72	\$0.80	\$0.95	\$1.20	\$1.30	\$1.50	\$1.80	\$2.00	\$2.20	\$2.60	\$4.00	\$4.80	\$7.00	\$8.00

ADJUSTABLE FLOOR SLEEVE, PLATE 2872 N

Made of heavy sheet steel and galvanized iron.

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
No. 1, each	\$0.25	\$0.25	\$0.32	\$0.48	\$0.55	\$0.62	\$0.75	\$1.00	\$1.25	\$1.40	\$1.85	\$2.25
No. 2, each	.35	.35	.52	.55	.60	.80	1.00	1.20	1.40	1.60	2.10	2.50

Minimum length—No. 1, 10 inches; No. 2, 14 inches.

Maximum length—No. 1, 16 inches; No. 2, 24 inches.

TELESCOPE FIRE-PROOF FLOOR SLEEVE, PLATE 2873 N

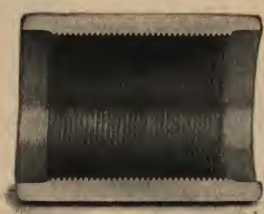
Made of galvanized sheet iron, with heavy steel flange on top and bottom.

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
No. 1, each	\$1.00	\$1.10	\$1.30	\$1.50	\$1.80	\$2.10	\$2.50	\$3.00	\$3.75	\$4.50	\$5.25
No. 2, each	1.05	1.20	1.35	1.50	1.80	2.10	2.50	3.00	3.75	4.50	5.25

No. 1, telescope 12 to 17 inches.
No. 2, telescope 14 to 24 inches.



2874 N



2875 N



2876 N



2877 N



2878 N

WROUGHT IRON COUPLING, PLATE 2874 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Plain, each		\$0.05	\$0.05	\$0.06	\$0.07	\$0.10	\$0.13	\$0.17	\$0.21	\$0.28	\$0.40	\$0.40
Galvanized, each		.06	.06	.08	.10	.13	.18	.25	.32	.40	.55	.55
Size, inches	3	3 1/2	4	4 1/2	5	6	7	8	10			
Plain, each	\$0.60	\$0.80	\$1.00	\$1.50	\$1.65	\$2.40	\$3.25	\$4.25	\$7.50			
Galvanized, each	.80	1.05	1.40	2.00	2.25	3.25	....	....	....

PATENT SLEEVE COUPLING, PLATE 2875 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Black, each	\$0.10	\$0.12	\$0.15	\$0.25	\$0.30	\$0.40	\$0.60	\$0.80	\$1.30
Galvanized, each	.14	.16	.21	.37	.46	.57	.85	1.15	1.90
Black, right and left, each	.15	.18	.23	.38	.45	.70	1.20	1.60	2.60
Galvanized, right and left, each	.21	.25	.31	.53	.63	.98	1.70	2.25	3.65
Size, inches	4	4 1/2	5	6	7	8	9	10	
Black, each	\$1.50	\$2.00	\$2.40	\$2.80	\$3.85	\$4.00	\$5.00	\$6.00	
Galvanized, each	2.15	2.85	3.45	4.00	5.55	5.80	7.25	8.75	
Black, right and left, each	3.00	....	....	....	....	....	....	....
Galvanized, right and left, each	4.20	....	....	....	....	....	....	....

CAST IRON TWIN ELL, PLATE 2876 N

Size, inches	1x3/4	1 1/4x1	1 1/2x1 1/4	2x1 1/2	2 1/2x2	3x2 1/2	4x3	5x3 1/2	5x4	6x5
Each	\$0.38	\$0.52	\$0.68	\$0.90	\$1.50	\$2.25	\$3.75	\$6.75	\$6.75	\$9.75

EUREKA COMBINATION CIRCULATING FITTING, PLATE 2877 N

For Single-Pipe Hot Water Work.

Size of main, inches	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Length over all, inches	8 1/8	8 1/8	9 1/4	9 1/4	9 1/4	9 1/4	9 1/4	9 1/4
Outlet, center to center, inches	4 1/8	4 1/8	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
Each	\$0.90	\$1.30	\$1.50	\$1.90	\$2.20	\$3.20	\$3.70	\$4.90

PHELPS IDEAL SINGLE-MAIN CIRCULATING HOT WATER FITTING, PLATE 2878 N

Size of main, inches	2 1/2	3	3 1/2	4	4 1/2	5
Each, tapped 1 1/4-inch	\$1.25	\$1.50	\$2.00	\$2.50	\$3.00	\$3.50
Each, tapped 1 1/2-inch	1.35	1.60	2.10	2.60	3.10	3.60



2879 N



2880 N

EXTRA HEAVY CAST IRON ELBOWS, PLATE 2879 N AND PLATE 2880 N
250 Pounds Working Pressure.

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Elbows, each	\$0.30	\$0.35	\$0.45	\$0.60	\$0.75	\$1.25	\$2.00	\$2.75
Elbows, reducing, each	.40	.45	.55	.75	.95	1.55	2.50	3.40
Elbows, 45°, each	.40	.45	.55	.70	.90	1.50	2.50	3.50
Size, inches	4	4 1/2	5	6	7	8	10	12
Elbows, each	\$3.50	\$4.25	\$5.50	\$ 8.00	\$12.00	\$17.00	\$28.00	\$40.00
Elbows, reducing, each	4.40	5.30	6.80	10.00	15.00	21.00	35.00	50.00
Elbows, 45°, each	4.50	5.50	6.75	9.75	14.50	21.00	34.00	48.00



2881 N



2882 N

EXTRA HEAVY CAST IRON TEE, PLATE 2881 N

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Tees, each	\$0.45	\$0.55	\$0.70	\$0.90	\$1.15	\$1.80	\$3.00	\$4.25
Tees, reducing, each	.65	.70	.90	1.15	1.40	2.25	3.75	5.30
Size, inches	4	4 1/2	5	6	7	8	10	12
Tees, each	\$5.50	\$6.75	\$ 8.25	\$12.00	\$18.00	\$25.00	\$42.00	\$60.00
Tees, reducing, each	6.85	8.50	10.25	15.00	22.50	31.00	52.00	75.00

EXTRA HEAVY CAST IRON CROSS, PLATE 2882 N

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Crosses, each	\$0.65	\$0.70	\$0.90	\$1.20	\$1.50	\$2.50	\$4.00	\$5.50
Crosses, reducing, each	.85	.90	1.15	1.50	1.85	3.15	5.00	6.85
Size, inches	4	4 1/2	5	6	7	8	10	12
Crosses, each	\$7.00	\$ 8.50	\$11.00	\$16.00	\$24.00	\$34.00	\$56.00	\$ 80.00
Crosses, reducing, each	8.75	10.00	13.75	20.00	30.00	42.00	70.00	100.00



2883 N

EXTRA HEAVY FLANGE UNION, PLATE 2883 N

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$0.70	\$0.80	\$1.00	\$1.15	\$1.50	\$1.90	\$2.25
Size, inches	3 1/2	4	4 1/2	5	6	7	8
Each	\$2.70	\$3.15	\$4.00	\$4.75	\$6.00	\$8.25	\$10.50



2884 N



2885 N

COMMON FLANGE, PLATE 2884 N

Diameter of Flange, Inches	Size of Pipe in Inches																			
	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8	9	10	12	14
3	\$0.10	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...
3 1/215	.15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
422	.16	.16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4 1/225	.22	...	...	...	...	...	...	...	...	...	...	...	...	...	...
530	.30	.30	.30	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5 1/235	...	...	...	...	...	...	...	...	...	...	...	...	...
642	.40	.40	.42	.42	...	...	...	...	...	...	...	...	...	...	...	...
6 1/250	.50	.50	...	...	...	...	...	...	...	...	...	...	...
762	.62	.62	...	...	...	...	...	...	...	...	...	...	...
7 1/275	...	...	...	...	...	...	...	...	...	...	...
890	.90	.90	...	...	...	...	...	...	...	...	...	...	...
8 1/2	1.00	1.00	...	...	...	...	...	...	...	...	...
9	1.15	1.15	1.15	1.15	...	...	...	...	...	...	...
9 1/4	1.25	...	...	...	...	...	...	...	...
10	1.50	1.50	1.50	1.50	1.50	...	...	...	...	...	...
11	1.75	1.75	1.75	...	...	...	...	...	...
12	2.20	2.20	2.20	...	...	...	...	...
12 1/2	2.20	2.20	2.20	...	...	...	...	...
13	2.80	2.80	2.80	...	...	...	...
13 1/2	2.80	2.80	2.80	...	...	...	...
14	3.25	3.25	3.25	...	...	...	...
15	4.00	4.00	4.00	...	...	...
16	5.00	5.00	5.00	...	...
17	5.75	5.75	...	...
18	7.00	7.00	...
19	7.50	7.50
20	8.50

Other sizes made to order.

All flanges furnished not drilled unless otherwise specified.

SADDLE FLANGE, PLATE 2885 N

Prices on application.



2886 N

FLOOR FLANGE, PLATE 2886 N

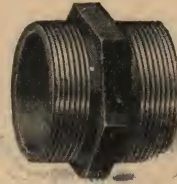
Size pipe, inches.....	3/8	3/8	1/2	1/2	1/2	1/2	3/4	3/4	3/4	1	1
O. D. of flange, inches.....	3	3 1/2	2 1/2	3	3 1/2	4	3	3 1/2	4	3 1/2	4
Each	\$0.14	\$0.17	\$0.15	\$0.15	\$0.17	\$0.20	\$0.18	\$0.18	\$0.21	\$0.20	\$0.22
Size pipe, inches.....	1	1 1/4	1 1/4	1 1/4	1 1/2	2	2	2	2 1/2	3	
O. D. of flange, inches.....	5	4	4 1/2	5	4 1/2	5	5 1/2	6	6	7	
Each	\$0.33	\$0.25	\$0.30	\$0.35	\$0.31	\$0.45	\$0.45	\$0.55	\$0.55	\$0.70	



2887 N



2888 N



2889 N



2890 N

NIPPLES, PLATE 2887 N AND PLATE 2888 N

Black, Right-hand.

Black, Right-Hand—Extra Long.

Close	Short	Length, Inches			Size, Inches	Close or Short	Long	Length, Inches											
		2	2½	3				4	5	6	7	8	9	10	11	12			
¾	1½	2	2½	3	¾	\$0.04	\$0.06	\$0.07	\$0.08	\$0.10	\$0.12	\$0.14	\$0.15	\$0.17	\$0.18	\$0.19			
1	1½	2	2½	3	¾	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19			
1 1/8	1½	2	2½	3	¾	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19			
1 1/8	2	2½	3	3½	¾	.05	.07	.08	.10	.12	.14	.16	.18	.20	.22	.23			
1 1/8	2	2½	3	3½	¾	.06	.09	....	.11	.13	.17	.18	.20	.22	.24	.26	
1 1/8	2 1/2	3	3½	4	1	.08	.13	....	.15	.18	.23	.25	.28	.31	.34	.36	
1 1/8	2 1/2	3	3½	4	1 1/4	.11	.17	....	.20	.24	.29	.33	.36	.40	.44	.47	
1 3/4	2 1/2	3	3½	4	1 1/2	.13	.20	....	.25	.29	.36	.40	.45	.50	.54	.59	
2	2 1/2	3	3½	4	2	.18	.27	....	.32	.38	.50	.54	.59	.65	.72	.77	
2 1/2	3	3 1/2	4	4 1/2	2 1/2	.39	.59	....	....	.68	.90	.97	1.06	1.17	1.26	1.35
2 1/2	3	3 1/2	4	4 1/2	3	.48	.72	....	....	.85	1.08	1.20	1.33	1.45	1.58	1.70
2 3/4	4	4 1/2	5	5 1/2	3 1/2	.75	1.05	....	....	....	1.30	1.45	1.60	1.75	1.90	2.05
3	4	4 1/2	5	5 1/2	4	.85	1.20	....	....	....	1.52	1.69	1.87	2.05	2.22	2.40
3	4	4 1/2	5	5 1/2	4 1/2	1.25	1.70	....	....	....	2.25	2.50	2.75	2.95	3.17	3.40
3 1/2	4 1/2	5	5 1/2	6	5	1.55	2.45	....	....	....	2.58	2.83	3.10	3.35	3.60	3.85
3 1/2	4 1/2	5	5 1/2	6	6	1.85	2.90	....	....	....	3.05	3.35	3.70	4.00	4.30	4.65
4	5	6	....	....	7	3.20	3.60	....	....	....	4.05	4.45	4.90	5.30	5.75	6.15
4	5	6	....	....	8	3.55	4.05	....	....	....	4.55	5.05	5.50	6.00	6.50	7.00
5	6	8	....	....	9	5.25	6.50	....	....	....	....	....	7.10	7.75	8.40	9.00
5	6	8	....	....	10	6.75	8.25	....	....	....	....	....	8.90	9.70	10.40	11.15
5	6	8	....	....	12	8.00	10.00	....	....	....	....	....	10.80	11.75	12.70	13.65

Nipples larger than 12 inches and longer made to order and charged as pipe and threads extra.

Black, Threaded Right and Left—Extra Long.

Size, Inches	Close or Short	Long	Length, Inches									
			4	5	6	7	8	9	10	11	12	
1/8	\$0.05	\$0.08	\$0.09	\$0.11	\$0.13	\$0.16	\$0.18	\$0.20	\$0.23	\$0.25	\$0.27	
1/4	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27	
3/8	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27	
1/2	.07	.10	.11	.13	.16	.18	.21	.24	.27	.29	.31	
3/4	.08	.12	....	.15	.17	.23	.25	.27	.29	.32	.35
1	.11	.18	....	.20	.24	.31	.33	.37	.41	.45	.48
1 1/4	.15	.23	....	.27	.32	.39	.45	.50	.55	.60	.65
1 1/2	.18	.27	....	.34	.39	.48	.52	.60	.67	.72	.80
2	.24	.36	....	.43	.51	.67	.72	.80	.87	.96	1.03
2 1/2	.52	.79	....	....	.91	1.20	1.30	1.40	1.55	1.68	1.80
3	.65	.96	....	....	1.13	1.44	1.60	1.77	1.93	2.10	2.27
3 1/2	1.00	1.40	....	....	....	1.75	1.95	2.15	2.35	2.55	2.75
4	1.15	1.60	....	....	....	2.00	2.25	2.50	2.75	3.00	3.25

Galvanized, Threaded, Right Hand—Extra Long.

Size, Inches	Close or Short	Long	Length, Inches									
			4	5	6	7	8	9	10	11	12	
1/8	\$0.06	\$0.11	\$0.12	\$0.15	\$0.17	\$0.21	\$0.24	\$0.26	\$0.29	\$0.31	\$0.34	
1/4	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34	
3/8	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34	
1/2	.06	.11	.13	.16	.18	.23	.26	.28	.31	.33	.36	
3/4	.08	.14	....	.18	.21	.26	.29	.32	.35	.38	.41
1	.11	.19	....	.24	.28	.34	.38	.42	.47	.51	.55
1 1/4	.17	.29	....	.32	.38	.45	.51	.57	.63	.69	.75
1 1/2	.21	.35	....	.39	.46	.55	.63	.70	.77	.84	.91
2	.27	.47	....	.52	.61	.74	.83	.93	1.03	1.13	1.23
2 1/2	.56	.86	....	....	1.00	1.26	1.41	1.56	1.71	1.86	2.01
3	.70	1.10	....	....	1.30	1.60	1.80	2.00	2.20	2.40	2.60
3 1/2	1.20	1.70	....	....	....	2.10	2.35	2.60	2.85	3.15	3.40
4	1.35	1.87	....	....	....	2.30	2.60	2.90	3.20	3.50	3.80
4 1/2	1.85	2.60	....	....	....	3.30	3.65	4.05	4.45	4.85	5.25
5	2.30	3.15	....	....	....	3.75	4.20	4.60	5.00	5.40	5.85
6	2.80	4.25	....	....	....	4.50	5.00	5.55	6.05	6.60	7.15
7	4.25	4.95	....	....	....	5.65	6.35	7.05	7.75	8.45	9.20
8	5.00	5.80	....	....	....	6.65	7.50	8.35	9.25	10.10	10.95

Nipples made to order extra strong at double above list.
Add 60 per cent to above prices for galvanized nipples threaded right and left.
All our nipples are reamed.

RIGHT AND LEFT NIPPLES, WITH HEXAGON CENTER, PLATE 2889 N

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Each	\$0.20	\$0.20	\$0.20	\$0.25	\$0.30	\$0.40	\$0.50	\$0.70	\$1.10	\$1.50	\$1.90	\$2.40

LOCKNUT OR TANK NIPPLE, PLATE 2890 N

6 inches long.

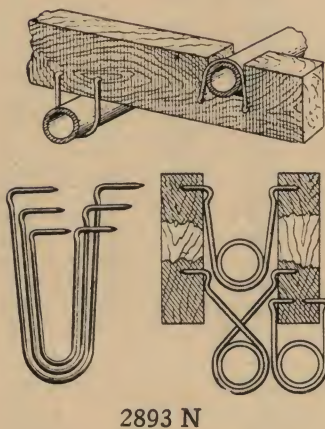
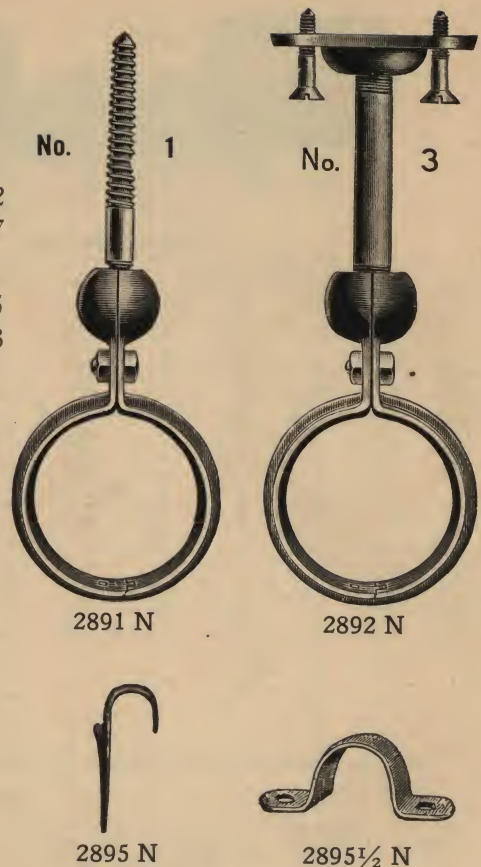
Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$0.10	\$0.10	\$0.10	\$0.12	\$0.13	\$0.18	\$0.24	\$0.29	\$0.38	\$0.68	\$0.85

Can furnish nipples made from Byers' genuine wrought iron pipe if so desired.

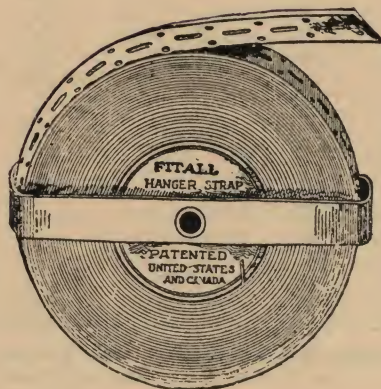


BALL JOINT PIPE HANGERS, PLATE 2891 N AND PLATE 2892 N

Size pipe, inches.....	1/2	3/4	1	1 1/4	1 1/2
Style No. 1, each.....	\$0.15	\$0.18	\$0.18	\$0.20	\$0.22
Style No. 3, each.....	.30	.33	.33	.35	.37
Size pipe, inches.....	2	2 1/2	3	3 1/2	4
Style No. 1, each.....	\$0.25	\$0.30	\$0.35	\$0.37	\$0.45
Style No. 3, each.....	.40	.55	.62	.70	.83



2893 N



2894 N

REZNOR GALVANIZED WIRE PIPE HOOKS, PLATE 2893 N

Length of hooks, inches.....	3	4	5	6	7	8	10	12
3/8-inch pipe size, per 1,000.....	\$5.10	\$5.60	\$ 6.30	\$ 7.00	\$.....	\$.....	\$.....	\$.....
1/2-inch pipe size, per 1,000.....	5.40	6.10	6.80	7.70	8.60	9.60	.....	.....
3/4-inch pipe size, per 1,000.....	.....	6.60	7.30	8.40	9.50	10.90	.....	.....
1 -inch pipe size, per 1,000.....	.....	7.50	8.80	10.00	11.10	12.30	14.00	.....
1 1/4-inch pipe size, per 1,000.....	.....	9.60	11.00	12.60	14.00	15.40	17.40	.....
1 1/2-inch pipe size, per 1,000.....	.....	.....	12.00	13.60	15.00	16.60	19.40	22.60
2 -inch pipe size, per 1,000.....	.....	.....	12.40	14.00	15.40	17.00	21.40	23.00

FIT-ALL HANGER STRAP, PLATE 2894 N

No. 1—7/8x24, per coil of 100 feet.....	\$2.50
No. 2— 1x20, per coil of 100 feet.....	3.25

GAS HOOK AND TINNED STRAP, PLATE 2895 N AND PLATE 2895 1/2 N

Size of pipe, inches.....	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Gas hooks, per 100.....	\$0.23	\$0.28	\$0.33	\$0.47	\$0.60	\$0.75	\$0.95	\$1.25
Straps, per 100.....	1.00	1.00	1.00	1.50	2.00	2.50	3.50	....



2896 N

ADJUSTABLE MALLEABLE IRON BEAM CLAMP, PLATE 2896 N

Fitted with bracket with lugs and bolt, each.....\$0.50
Adjustable from 2 to 7 inches.



2897 N



2898 N



2899 N



2899 1/2 N

GRABLER STEEL BAND PIPE HANGERS, PLATE 2897 N TO PLATE 2899 1/2 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Plate 2897 N, sectional ring, each	\$0.23	\$0.23	\$0.25	\$0.27	\$0.31	\$0.33	\$0.35	\$0.43
Plate 2898 N, solid ring, each	.20	.20	.22	.24	.28	.30	.32	.40
Plate 2899 N, solid ring, each	.20	.20	.20	.22	.24	.28	.30	.32
Plate 2899 1/2 N, solid ring, each	.36	.36	.38	.40	.42	.47	.51	.53
Size, inches	3 1/2	4	4 1/2	5	6	7	8	10
Plate 2897 N, sectional ring, each	\$0.47	\$0.50	\$0.54	\$0.57	\$0.63	\$1.00	\$1.30	\$2.00
Plate 2898 N, solid ring, each	.44	.48	.51	.54	.60	.95	1.25	1.90
Plate 2899 N, solid ring, each	.40	.44	.46	.48	.54	.78	1.02	1.50
Plate 2899 1/2 N, solid ring, each	.57	.59	.61	.63	.67	1.05	1.30	2.10



2900 N

EXTENSION BAR FOR GRABLER HANGERS, PLATE 2900 N

Ten-Foot Lengths.

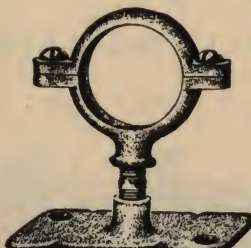
Number	1	2	3	4	5
For pipe, inches	1/2 to 1 1/2	2 to 3	3 1/2 to 6	7 to 8	9 to 12
Per foot	\$0.08	\$0.09	\$0.10	\$0.20	\$0.28



2901 N



2902 N



2903 N



2904 N



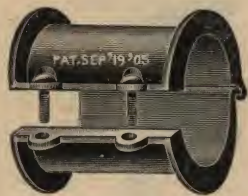
2905 N

HANGERS, PLATE 2901 N TO PLATE 2904 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Plate 2901 N, solid ring hanger, galvanized iron, each	\$0.06 1/2	\$0.07	\$0.08	\$0.09	\$0.12	\$0.16		
Plate 2901 N, solid ring hanger, polished brass, each	.34	.36	.40	.55	.80	1.10		
Plate 2901 N, solid ring hanger, nickel plated brass, each	.36	.38	.45	.60	.90	1.20		
Plate 2902 N, sectional hanger, galvanized, each	.17	.20	.25	.30	.40	.50		
Plate 2902 N, sectional hanger, polished brass, each	.50	.60	.75	.90	1.25	1.50		
Plate 2902 N, sectional hanger, nickel plated brass, each	.55	.65	.80	1.00	1.40	1.60		
Plate 2903 N, extension hanger, galvanized, each	.25	.30	.35	.40	.50	.60		
Plate 2903 N, extension hanger, polished brass, each	.90	1.00	1.15	1.30	1.50	1.70		
Plate 2903 N, extension hanger, nickel plated brass, each	1.00	1.10	1.25	1.40	1.60	1.80		
Plate 2904 N, swivel base hanger, polished brass, each	.50	.60	.75	.....	.....	.....
Plate 2904 N, swivel base hanger, nickel plated brass, each	.55	.65	.80	.....	.....	.....

EXPANSION RING HANGER, PLATE 2905 N

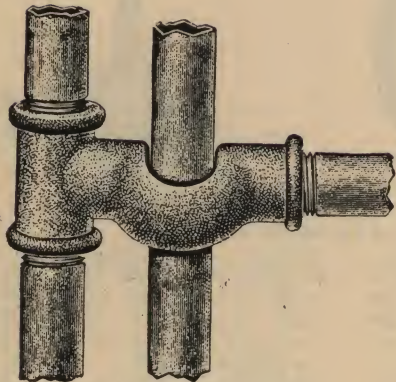
Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$0.17	\$0.17	\$0.18	\$0.19	\$0.25	\$0.29	\$0.36	\$0.44
Size, inches	3 1/2	4	4 1/2	5	6	7	8	
Each	\$0.55	\$0.63	\$0.90	\$1.12	\$1.35	\$1.80	\$2.25	



2905A N

EMERGENCY PIPE CLAMPS, PLATE 2905A N

Size of pipe, inches.....	1/2	3/4	1	1 1/4	1 1/2
Length over all, inches.....	3 1/4	3 1/4	3 1/2	3 3/4	4
Each	\$0.40	\$0.45	\$0.50	\$0.60	\$0.70
Size of pipe, inches.....	2	2 1/2	3	3 1/2	4
Length over all, inches.....	4 1/4	4 1/2	5	5 1/2	6
Each	\$0.80	\$1.00	\$1.25	\$1.50	\$2.00



2906 N

STRADDLE FITTINGS, PLATE 2906 N

Size, 1/2 inch, to cross 1/2-inch pipe, each.....	\$0.38
Size, 3/4 inch, to cross 3/4-inch pipe, each.....	.56
Size, 1 inch, to cross 1-inch pipe, each.....	.86

MALLEABLE IRON CROSS-OVERS, PLATE 2907 N AND PLATE 2908 N

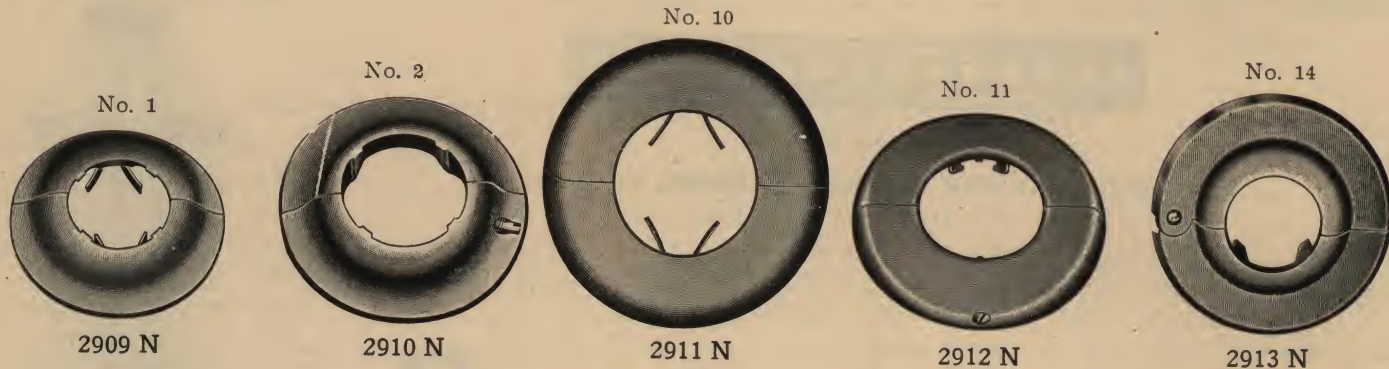
Tapped for pipe, inches.....	1/2	3/4	1
To cross pipe, inches.....	1/2	3/4	1
Plain, galvanized, each.....	\$0.25	\$0.40	\$0.45
Back outlet, galvanized, each..	.30	.50	.75



2907 N



2908 N



BEATON ADJUSTABLE FLOOR AND CEILING PLATES, PLATE 2909 N TO PLATE 2913 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Black, each	\$0.16	\$0.17	\$0.20	\$0.22	\$0.25	\$0.30	\$0.50	\$0.65	\$0.80	\$1.00
Nickel plated, each.....	.27	.28	.32	.35	.38	.45	.65	.80	1.00	1.25



2914 N



2915 N



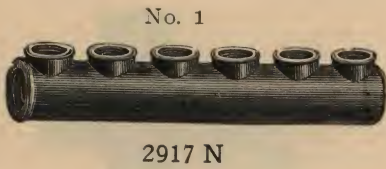
2916 N

CAST IRON CEILING PLATES, PLATE 2914 N AND PLATE 2915 N

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Solid, each	\$0.13	\$0.16	\$0.18	\$0.23	\$0.27	\$0.36	\$0.50	\$0.55	\$0.68
In halves, each.....	.22	.28	.32	.40	.50	.65	.90	1.00	1.20

SOLID CAST IRON FLOOR PLATE, PLATE 2916 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Solid, each	\$0.06	\$0.06	\$0.08	\$0.11	\$0.14	\$0.16	\$0.24	\$0.30	\$0.35	\$0.42	\$0.50	\$0.60	\$0.75



BRANCH TEES, PLATE 2917 N TO PLATE 2919 N

Please order by number. All openings in Nos. 1 and 2 Branch Tees are tapped right-hand. All openings in Branch Tees No. 3 for box coils are tapped left-hand in branches and right-hand in back inlet.

Number of Branches	1-inch Branch Tees			Number of Branches	1 1/4-inch Branch Tees			Number of Branches	1 1/2-inch Branch Tees			Number of Branches	2-inch Branch Tees		
	2 1/2-inch Center to Center	1-inch or 1 1/4-inch Run	2-inch Run		3-inch Center to Center	1 1/2-inch Run	2-inch Run		2 1/2-inch Run	3 1/2-inch Center to Center	2-inch Run		2 1/2-inch Run	3-inch Run	4 1/2-inch Center to Center	2-inch Run	3-inch Run	3 1/2-inch Run
2	\$0.90	\$1.00	\$1.15	2	\$...	\$...	\$...	2	\$...	\$...	\$...	2	\$...	\$...	\$...
3	1.05	1.15	1.35	3	1.65	1.90	2.40	3	2.70	3.45	3.80	3	5.25	5.75	6.25
4	1.15	1.30	1.60	4	2.00	2.40	2.85	4	3.35	4.15	4.60	4	6.40	7.00	7.75
5	1.35	1.45	1.85	5	2.40	2.90	3.55	5	4.00	5.00	5.50	5	7.65	8.50	9.25
6	1.60	1.75	2.10	6	2.80	3.30	3.95	6	4.65	5.75	6.25	6	8.80	9.75	10.75
7	1.90	2.20	2.45	7	3.20	3.90	4.20	7	5.25	6.50	7.25	7	10.60	11.75	13.00
8	2.20	2.45	2.75	8	3.60	4.50	4.95	8	5.85	7.00	7.75	8	11.50	12.75	14.00
9	2.65	2.90	3.40	9	4.30	5.25	6.15	9	6.50	8.25	9.00	9	12.25	13.50	15.00
10	...	3.30	4.00	10	4.80	5.85	6.85	10	7.60	9.25	10.00	10	13.50	15.00	16.50
11	...	4.50	4.80	11	5.00	6.25	7.25	11	8.00	9.75	10.75	11	...	...	...
12	...	4.75	5.10	12	5.25	6.50	7.65	12	8.50	10.50	11.50	12	...	...	...
13	...	5.50	6.00	13	6.00	7.00	8.25	13	...	...	...	13	...	...	...
14	...	7.00	7.25	14	6.75	7.75	9.00	14	...	...	...	14	...	...	...
15	...	7.50	7.75	15	7.50	8.50	9.75	15	...	...	...	15	...	...	...
16	...	8.00	8.25	16	8.50	9.50	10.75	16	...	...	...	16	...	...	...

One-inch Branch Tees, 1-inch or 1 1/4-inch run, are 1 1/4 inches inside diameter. 1-inch Branch Tees, 1 1/2-inch or 2-inch run, are 2 1/4 inches inside diameter. 1 1/4-inch Branch Tees are all 2 1/2 inches inside diameter. 1 1/2-inch Branch Tees are all 2 3/4 inches inside diameter. 2-inch Branch Tees are all 3 1/2 inches inside diameter. 1-inch Branch Tees, 1-inch and 1 1/4-inch run, are also made 2 1/4 inches inside diameter, as large pattern.

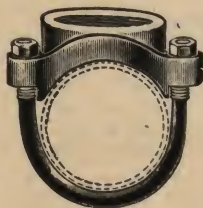
Back or side outlets will be charged as additional front outlets, e. g., a 1x6x1 branch tee, No. 2 or No. 3, will take the list price of a 1x7x1, or \$1.90.



2920 N

HOOK PLATE, PLATE 2920 N

Number of hooks	1	2	3	4	5	6	7	8	9	10	11	12
1 -inch pipe, each	\$0.09	\$0.18	\$0.23	\$0.26	\$0.32	\$0.38	\$0.48	\$0.59	\$0.65	\$0.70	\$0.85	\$1.00
1 1/4-inch pipe, each	.10	.21	.27	.32	.41	.52	.68	.80	.90	1.20	1.35	1.40
1 1/2-inch pipe, each	.15	.28	.43	.58	.72	.88	1.10	1.25	1.40	1.55	1.65	1.90
2 -inch pipe, each	.22	.43	.65	.90	1.15	1.35	1.75	2.00	2.25	2.50	2.75	3.00



2921 N



2921 1/2 N

MALLEABLE IRON PIPE SADDLE, PLATE 2921 N

For Standard Screwed Iron Pipe.

Size pipe, inches	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2
Tapped for pipe, inches	1/2 to 3/4	1/2 to 1 1/2	3/4 to 1 1/2	3/4 to 2	3/4 to 2	3/4 to 2	3/4 to 2
Each	\$0.90	\$1.00	\$1.25	\$1.25	\$1.40	\$1.50	\$2.50
Size pipe, inches	5	6	6	7	8	9	10
Tapped for pipe, inches	3/4 to 3	3/4 to 2	2 1/2 to 4	1 to 4	1 to 4	1 1/2 to 4	1 1/2 to 6
Each	\$2.75	\$2.75	\$5.75	\$6.50	\$6.50	\$8.50	\$10.00

STEEL HOOK, PLATE 2921 1/2 N

Size, inches	1	1 1/4	1 1/2	2
Number of hooks	30	30	25	20
Each	\$2.50	\$3.25	\$3.75	\$4.25



2922 N



2923 N



2924 N



2925 N

CAST IRON LONG RADIUS ELBOW, PLATE 2922 N

Size, inches.....	1	1¼	1½	2	2½	3	3½	4
Elbow, straight, each.....	\$0.32	\$0.40	\$0.55	\$0.80	\$1.20	\$2.25	\$3.25	\$3.50
Elbow, reducing, each.....	.48	.60	.83	1.20	1.80	3.38	4.88	5.25
Size, inches.....	4½	5	6	7	8	9	10	12
Elbow, straight, each.....	\$5.50	\$6.50	\$ 8.75	\$13.00	\$17.00	\$25.50	\$30.00	\$40.00
Elbow, reducing, each.....	8.25	9.75	13.13	19.50	25.50	38.25	45.00	60.00

CAST IRON LONG RADIUS DOUBLE ELBOW, PLATE 2923 N

Size, inches.....	1	1¼	1½	2	2½	3	3½	4
Double ell, straight, each.....	\$0.64	\$0.80	\$1.10	\$1.60	\$2.40	\$4.50	\$6.50	\$ 7.00
Double ell, reducing, each.....	.96	1.20	1.65	2.40	3.60	6.75	9.75	10.50
Size, inches.....	4½	5	6	7	8	9	10	12
Double ell, straight, each.....	\$11.00	\$13.00	\$17.50	\$26.00	\$34.00	\$51.00	\$60.00	\$ 80.00
Double ell, reducing, each.....	16.50	19.50	26.25	39.00	51.00	76.50	90.00	120.00

CAST IRON LONG RADIUS TEE, PLATE 2924 N

Size, inches.....	1	1¼	1½	2	2½	3	3½	4
Tee, straight, each.....	\$0.48	\$0.60	\$0.82	\$1.20	\$1.80	\$3.40	\$4.90	\$5.25
Tee, reducing, each.....	.72	.90	1.23	1.80	2.70	5.10	7.35	7.88
Size, inches.....	4½	5	6	7	8	9	10	12
Tee, straight, each.....	\$ 8.25	\$ 9.75	\$13.25	\$19.50	\$25.50	\$38.00	\$45.00	\$60.00
Tee, reducing, each.....	12.38	14.63	19.88	29.25	38.25	57.00	67.50	90.00

CAST IRON LONG RADIUS CROSS, PLATE 2925 N

Size, inches.....	1	1¼	1½	2	2½	3	3½	4
Cross, straight, each.....	\$0.85	\$1.10	\$1.50	\$2.15	\$3.20	\$6.00	\$ 8.75	\$ 9.50
Cross, reducing, each.....		1.65	2.25	3.23	4.80	9.00	13.13	14.25
Size, inches.....	5	6	7	8	9	10	12	
Cross, straight, each.....	\$17.50	\$24.00	\$35.00	\$45.00	\$ 68.00	\$ 80.00	\$107.00	
Cross, reducing, each.....	26.25	36.00	52.50	67.50	102.00	120.00	160.50	

For galvanized fittings, double above lists.



2926 N



2927 N



2928 N



2929 N

LONG TURN FITTINGS WITH FLANGED ENDS, PLATE 2926 N AND PLATE 2927 N

Size, inches.....	2	2½	3	3½	4	5	6	7	8
Plate 2926 N—Elbow, flanged, 1 end, each.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.50	\$10.00	\$14.00	\$25.00	\$30.00
Plate 2926 N—Elbow, flanged, both ends, each..	6.00	6.75	7.50	8.50	10.00	12.50	17.50	30.00	35.00
Plate 2927 N—Tee, flanged, 1 or 2 ends, each...	8.00	9.00	10.00	11.00	12.00	15.00	22.00	40.00	45.00
Plate 2927 N—Tee, flanged, 3 ends, each.....	9.00	10.00	11.50	13.00	15.00	18.00	26.00	45.00	50.00
Not illustrated—Cross, flanged, 1 or 2 ends, each.	11.00	12.50	13.50	15.00	17.00	22.00	30.00	55.00	65.00
Not illustrated—Cross, flanged, 3 or 4 ends, each.	12.00	13.50	15.00	17.00	20.00	25.00	35.00	60.00	70.00

LONG TURN BASE FITTINGS, PLATE 2928 N AND PLATE 2929 N

Size, inches.....	3	4	4½	5	6	7	8	9	10
Plate 2928 N—Elbow, each.....	\$ 8.00	\$11.00	\$14.00	\$15.00	\$18.00	\$25.00	\$32.00	\$40.00	\$50.00
Plate 2929 N—Tee, each.....	12.00	16.50	21.00	22.50	27.00	38.00	50.00	65.00	85.00



2930 N

CAST IRON LONG TURN DOUBLE SWEEP TEE, PLATE 2930 N

Size, inches.....	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
Tee, straight, each.....	\$0.64	\$0.80	\$1.10	\$1.60	\$2.40	\$4.50	\$6.50	\$ 7.00	\$11.00	\$13.00	\$17.50	\$26.00	\$34.00
Tee, reducing, each.....					3.60	6.75	9.75	10.50	16.50	19.50	26.25	39.00	51.00



2931 N

125 Pounds Pressure.



2932 N



2933 N

STANDARD FLANGED ELBOW, PLATE 2931 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$3.00	\$3.15	\$3.45	\$4.05	\$4.50	\$5.50	\$6.25	\$7.60
Flanges faced and drilled, each	3.60	3.75	4.15	4.90	5.50	6.50	7.25	8.90
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$10.50	\$12.00	\$17.00	\$19.00	\$28.00	\$41.50	\$47.00	\$54.50
Flanges faced and drilled, each	12.00	13.60	19.25	21.70	31.00	45.25	51.50	59.50

STANDARD FLANGED 45° ELBOW, PLATE 2932 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$3.30	\$3.50	\$3.80	\$4.50	\$5.00	\$6.00	\$6.90	\$8.35
Flanges faced and drilled, each	3.90	4.10	4.50	5.35	6.00	7.00	7.90	9.65
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$11.00	\$12.60	\$17.75	\$20.00	\$29.50	\$41.50	\$47.00	\$54.50
Flanges faced and drilled, each	12.50	14.20	20.00	22.70	32.50	45.25	51.50	59.50

STANDARD FLANGED REDUCING ELBOW, PLATE 2933 N

Size, inches	3	3½	4	5	6	7	8
Flanges faced only, each	\$6.90	\$8.10	\$ 9.00	\$12.50	\$15.25	\$21.00	\$24.00
Flanges faced and drilled, each	7.60	8.95	10.00	13.50	16.55	22.50	25.60
Size, inches	9	10	12	14	15	16	
Flanges faced only, each	\$34.00	\$38.00	\$56.00	\$70.00	\$80.00	\$90.00	
Flanges faced and drilled, each	36.25	40.70	59.00	73.75	84.50	95.00	



2934 N

125 Pounds Pressure.



2935 N



2936 N

STANDARD FLANGED TEE, PLATE 2934 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$4.35	\$4.55	\$5.00	\$5.85	\$6.50	\$8.00	\$ 9.10	\$11.00
Flanges faced and drilled, each	5.25	5.45	6.10	7.10	8.00	9.50	10.60	12.95
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$15.25	\$17.40	\$24.65	\$27.50	\$40.50	\$60.00	\$68.00	\$79.00
Flanges faced and drilled, each	17.50	19.80	28.00	31.50	45.00	65.50	74.75	86.50

STANDARD REDUCING FLANGED TEE

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$5.00	\$5.25	\$5.75	\$6.75	\$7.50	\$ 9.25	\$10.50	\$12.65
Flanges faced and drilled, each	5.90	6.15	6.85	8.00	9.00	10.75	12.00	14.60
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$17.50	\$20.00	\$28.50	\$31.50	\$46.50	\$69.00	\$78.00	\$91.00
Flanges faced and drilled, each	19.75	22.40	31.85	35.50	51.00	74.50	84.75	98.50

STANDARD FLANGED Y BRANCH, PLATE 2935 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$6.75	\$6.95	\$7.65	\$ 9.00	\$10.00	\$12.00	\$13.75	\$16.75
Flanges faced and drilled, each	7.95	8.15	9.05	10.70	12.00	14.00	15.75	19.25
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$23.00	\$26.50	\$37.50	\$42.00	\$61.50	\$91.00	\$103.00	\$120.00
Flanges faced and drilled, each	26.00	29.75	42.00	47.50	67.50	98.50	112.00	130.00

STANDARD FLANGED CROSS, PLATE 2936 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$6.75	\$6.95	\$7.65	\$ 9.00	\$10.00	\$12.00	\$13.75	\$16.75
Flanges faced and drilled, each	7.95	8.15	9.05	10.70	12.00	14.00	15.75	19.25
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$23.00	\$26.50	\$37.50	\$42.00	\$61.50	\$91.00	\$103.00	\$120.00
Flanges faced and drilled, each	26.00	29.75	42.00	47.50	67.50	98.50	112.00	130.00

In ordering flanged fittings always specify if they are wanted with flanges drilled. Flange fittings will always be furnished faced only unless otherwise ordered.

Bolts for above, see page 92.



2937 N



2938 N



2939 N



2939 1/2 N

STANDARD FLANGED LONG RADIUS ELBOW, PLATE 2937 N

125 Pounds Pressure.

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$5.00	\$5.25	\$5.75	\$6.75	\$7.50	\$ 9.25	\$10.50	\$12.65
Flanges faced and drilled, each	5.90	6.15	6.85	8.00	9.00	10.75	12.00	14.60
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$17.50	\$20.00	\$28.50	\$31.50	\$46.50	\$69.00	\$78.00	\$91.00
Flanges faced and drilled, each	19.75	22.40	31.85	35.50	51.00	74.50	84.75	98.50

STANDARD FLANGED TAPER REDUCERS, PLATE 2938 N

125 Pounds Pressure.

Size, inches	3	3½	4	4½	5	6	7
Flanges faced only, each	\$6.90	\$8.10	\$ 9.00	\$11.00	\$12.50	\$15.25	\$21.00
Flanges faced and drilled, each	7.60	8.95	10.00	12.00	13.50	16.55	22.50
Size, inches	8	9	10	12	14	15	16
Flanges faced only, each	\$24.00	\$34.00	\$38.00	\$56.00	\$70.00	\$80.00	\$90.00
Flanges faced and drilled, each	25.60	36.25	40.70	59.00	73.75	84.50	95.00

STANDARD DOUBLE-SWEEP FLANGED TEE, PLATE 2939 N

125 Pounds Pressure.

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$5.00	\$5.25	\$5.75	\$6.75	\$7.50	\$ 9.25	\$10.50	\$12.65
Flanges faced and drilled, each	5.90	6.15	6.85	8.00	9.00	10.75	12.00	14.60
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$17.50	\$20.00	\$28.50	\$31.50	\$46.50	\$69.00	\$78.00	\$91.00
Flanges faced and drilled, each	19.75	22.40	31.85	35.50	51.00	74.50	84.75	98.50

STANDARD REDUCING DOUBLE-SWEEP FLANGED TEE, PLATE 2939 1/2 N

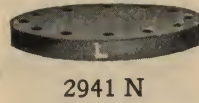
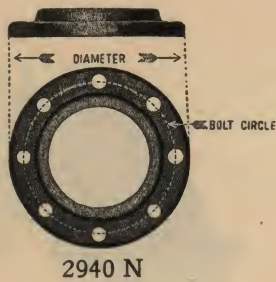
125 Pounds Pressure.

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$5.75	\$6.00	\$6.60	\$7.75	\$ 8.65	\$10.60	\$12.00	\$14.50
Flanges faced and drilled, each	6.65	6.90	7.70	9.00	10.15	12.10	13.50	16.45
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$20.00	\$23.00	\$32.75	\$36.00	\$53.50	\$79.00	\$90.00	\$105.00
Flanges faced and drilled, each	22.25	25.40	36.10	40.00	58.00	84.50	96.75	112.50

In ordering flanged fittings, always specify if they are wanted with flanges drilled.

Flanged fittings will always be furnished faced only unless otherwise ordered.

Bolts for above, see page 92.



STANDARD FLANGES, PLATE 2940 N

125 Pounds Pressure.

Size, inches	2	2½	3	3½	4	4½	5	6
Faced only, each	\$0.75	\$0.85	\$0.95	\$1.20	\$1.35	\$1.45	\$1.60	\$2.00
Faced and drilled, each	1.00	1.10	1.25	1.55	1.80	1.90	2.05	2.50
Size, inches	8	9	10	12	14	15	16	
Faced only, each	\$3.10	\$3.85	\$4.50	\$6.50	\$9.00	\$11.50	\$13.50	
Faced and drilled, each	3.80	4.65	5.50	7.65	10.35	13.20	15.30	
Size, inches	2½	3	3½	4	4½	5	6	
Reducing flange, faced only, each	\$1.55	\$2.00	\$2.20	\$2.40	\$2.65	\$3.30	\$4.40	
Reducing flange, faced and drilled, each	1.85	2.35	2.65	2.85	3.10	3.80	5.00	
Size, inches	8	9	10	12	14	15	16	
Reducing flange, faced only, each	\$6.35	\$7.45	\$10.75	\$15.00	\$19.00	\$22.00	\$26.50	
Reducing flange, faced and drilled, each	7.15	8.45	11.90	16.35	20.70	23.80	28.50	

STANDARD BLIND FLANGES, PLATE 2941 AND PLATE 2941½ N

125 Pounds Pressure.

Size, inches	2	2½	3	3½	4	4½	5	6
Outside diameter, inches	6	7	7½	8½	9	9¼	10	11
Faced only, each	\$1.15	\$1.30	\$1.40	\$1.80	\$2.00	\$2.20	\$2.40	\$3.00
Faced and drilled, each	1.40	1.55	1.70	2.15	2.45	2.65	2.85	3.50
Size, inches	8	9	10	12	14	15	16	
Outside diameter, inches	13½	15	16	19	21	22¼	23½	
Faced only, each	\$4.60	\$5.75	\$6.75	\$ 9.75	\$13.50	\$17.00	\$20.00	
Faced and drilled, each	5.30	6.55	7.75	10.90	14.85	18.70	21.80	

DIMENSIONS STANDARD FLANGED FITTINGS

Size, Inches	Diameter Flanges, Inches	Thickness Flanges, Inches	Diameter Bolt Circle, Inches	Number of Bolts	Size Bolt, Inches	Length of Bolt, Inches
2	6	5/8	4¾	4	5/8	2
2½	7	11/16	5½	4	5/8	2¼
3	7½	¾	6	4	5/8	2½
3½	8½	13/16	7	4	5/8	2½
4	9	15/16	7½	8	5/8	2¾
4½	9¼	15/16	7¾	8	¾	3
5	10	15/16	8½	8	¾	3
6	11	1	9½	8	¾	3
7	12½	1 1/16	10¾	8	¾	3
8	13½	1 1/8	11¾	8	¾	3¼
10	16	1 3/16	14¼	12	7/8	3½
12	19	1 ¼	17	12	7/8	3¾
14	21	1 3/8	18¾	12	1	4¼
16	23½	1 7/16	21¼	16	1	4¼

In ordering flanged fittings always specify if they are wanted with flanges drilled. Flanged fittings will always be furnished faced only unless otherwise ordered.

Bolts for above, see page 92.



2942 N



2943 N



2944 N

250 Pounds
Pressure.

EXTRA HEAVY FLANGED ELBOW, PLATE 2942 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$4.50	\$4.75	\$5.15	\$6.10	\$6.75	\$8.25	\$ 9.35	\$11.40
Flanges faced and drilled, each	5.40	5.65	6.25	7.35	8.25	9.75	10.85	13.40
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$15.75	\$18.00	\$25.50	\$28.50	\$42.00	\$62.00	\$70.00	\$82.00
Flanges faced and drilled, each	18.00	20.50	28.85	32.50	46.50	67.50	77.00	90.00

EXTRA HEAVY FLANGED 45° ELBOW, PLATE 2943 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$5.00	\$5.25	\$5.65	\$6.75	\$7.50	\$ 9.00	\$10.35	\$12.50
Flanges faced and drilled, each	5.90	6.15	6.75	8.00	9.00	10.50	11.85	14.50
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$16.50	\$19.00	\$26.75	\$30.00	\$44.00	\$62.00	\$70.00	\$82.00
Flanges faced and drilled, each	18.75	21.50	30.10	34.00	48.50	67.50	77.00	90.00

EXTRA HEAVY FLANGED REDUCING ELBOW, PLATE 2944 N

Size, inches	2	2½	3	3½	4	5	6
Flanges faced only, each	\$9.00	\$ 9.50	\$10.25	\$12.25	\$13.50	\$18.75	\$22.75
Flanges faced and drilled, each	9.90	10.40	11.35	13.50	15.00	20.25	24.75
Size, inches	7	8	9	10	12	14	15
Flanges faced only, each	\$31.50	\$36.00	\$57.00	\$84.00	\$105.00	\$120.00	\$135.00
Flanges faced and drilled, each	33.75	38.50	61.00	88.50	110.50	127.00	143.00



2945 N



2946 N



2947 N

250 Pounds
Pressure.

EXTRA HEAVY FLANGED TEE, PLATE 2945 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$6.50	\$6.90	\$7.50	\$ 8.90	\$ 9.75	\$12.00	\$13.50	\$16.50
Flanges faced and drilled, each	7.85	8.25	9.15	10.80	12.00	14.25	15.75	19.50
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$23.00	\$26.00	\$37.00	\$41.50	\$61.00	\$90.00	\$102.00	\$119.00
Flanges faced and drilled, each	26.35	29.75	42.00	47.50	67.75	98.25	112.00	131.00

EXTRA HEAVY FLANGED REDUCING TEE

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$7.50	\$8.00	\$ 8.60	\$10.25	\$11.25	\$13.75	\$15.50	\$19.00
Flanges faced and drilled, each	8.85	9.35	10.25	12.15	13.50	16.00	17.75	22.00
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$26.50	\$30.00	\$42.50	\$47.75	\$70.00	\$103.50	\$117.00	\$137.00
Flanges faced and drilled, each	29.85	33.75	47.50	53.75	76.75	111.75	127.00	149.00

EXTRA HEAVY FLANGED Y BRANCH, PLATE 2946 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$10.00	\$10.50	\$11.50	\$13.50	\$15.00	\$18.00	\$20.50	\$25.00
Flanges faced and drilled, each	11.80	12.30	13.75	16.00	18.00	21.00	23.50	29.00
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$35.00	\$40.00	\$56.00	\$63.00	\$ 92.00	\$136.00	\$155.00	\$180.00
Flanges faced and drilled, each	39.50	45.00	62.75	71.00	101.00	147.00	169.00	196.00

EXTRA HEAVY FLANGED CROSS, PLATE 2947 N

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$10.00	\$10.50	\$11.50	\$13.50	\$15.00	\$18.00	\$20.50	\$25.00
Flanges faced and drilled, each	11.80	12.30	13.75	16.00	18.00	21.00	23.50	29.00
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$35.00	\$40.00	\$56.00	\$63.00	\$ 92.00	\$136.00	\$155.00	\$180.00
Flanges faced and drilled, each	39.50	45.00	62.75	71.00	101.00	147.00	169.00	196.00

* In ordering flanged fittings always specify if they are wanted with flanges drilled. Flanged fittings will always be furnished faced only unless otherwise ordered.

Bolts for above, see page 92.



2948 N



2949 N



2950 N

EXTRA HEAVY FLANGED LONG RADIUS ELBOW, PLATE 2948 N

250 Pounds Pressure.

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$7.50	\$8.00	\$ 8.60	\$10.25	\$11.25	\$13.75	\$15.50	\$19.00
Flanges faced and drilled, each.....	8.85	9.35	10.25	12.15	13.50	16.00	17.75	22.00
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$26.50	\$30.00	\$42.50	\$47.75	\$70.00	\$103.50	\$117.00	\$137.00
Flanges faced and drilled, each.....	29.85	33.75	47.50	53.75	76.75	111.75	127.00	149.00

EXTRA HEAVY FLANGED TAPER REDUCERS, PLATE 2949 N

250 Pounds Pressure.

Size, inches	3	3½	4	4½	5	6	7
Flanges faced only, each	\$10.25	\$12.25	\$13.50	\$16.50	\$18.75	\$22.75	\$31.50
Flanges faced and drilled, each.....	11.35	13.50	15.00	18.00	20.25	24.75	33.75
Size, inches	8	9	10	12	14	15	16
Flanges faced only, each	\$36.00	\$51.00	\$57.00	\$84.00	\$105.00	\$120.00	\$135.00
Flanges faced and drilled, each.....	38.50	54.35	61.00	88.50	110.50	127.00	143.00

EXTRA HEAVY DOUBLE SWEEP FLANGED TEE, PLATE 2950 N

250 Pounds Pressure.

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$7.50	\$8.00	\$ 8.60	\$10.25	\$11.25	\$13.75	\$15.50	\$19.00
Flanges faced and drilled, each.....	8.85	9.35	10.25	12.15	13.50	16.00	17.75	22.00
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$26.50	\$30.00	\$42.50	\$47.75	\$70.00	\$103.50	\$117.00	\$137.00
Flanges faced and drilled, each.....	29.85	33.75	47.50	53.75	76.75	111.75	127.00	149.00

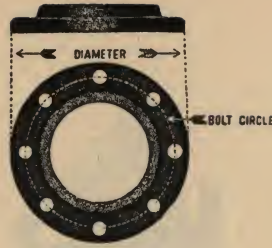
EXTRA HEAVY REDUCING DOUBLE-SWEEP FLANGED TEE

250 Pounds Pressure.

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$8.60	\$ 9.15	\$ 9.90	\$11.75	\$13.00	\$15.75	\$17.85	\$22.00
Flanges faced and drilled, each.....	9.95	10.50	11.55	13.65	15.25	18.00	20.10	25.00
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$30.50	\$34.50	\$49.00	\$55.00	\$80.00	\$119.00	\$135.00	\$158.00
Flanges faced and drilled, each.....	33.85	38.25	54.00	61.00	86.75	127.25	145.00	170.00

In ordering flanged fittings always specify if they are wanted with flanges drilled. Flanged fittings will always be furnished faced only unless otherwise ordered.

Bolts for above, see page 92.



2951 N

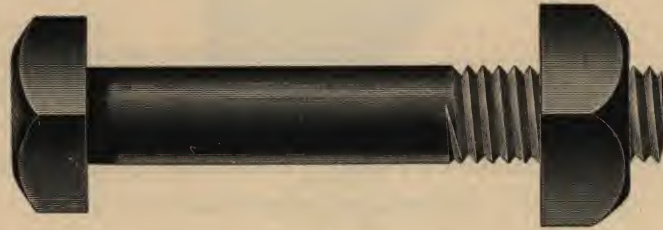
EXTRA HEAVY COMPANION FLANGE, PLATE 2951 N
250 Pounds Pressure.

Size, inches	2	2½	3	3½	4	4½	5	6
Flanges faced only, each	\$1.25	\$1.40	\$1.60	\$2.00	\$2.25	\$2.40	\$2.65	\$3.30
Flanges faced and drilled, each	1.60	1.75	2.05	2.55	2.95	3.10	3.35	4.05
Size, inches	7	8	9	10	12	14	15	16
Flanges faced only, each	\$4.40	\$5.10	\$6.30	\$7.40	\$10.75	\$15.00	\$19.00	\$22.25
Flanges faced and drilled, each	5.30	6.15	7.50	8.90	12.50	17.00	21.50	25.00

DIMENSIONS EXTRA HEAVY FLANGED FITTINGS

Size, Inches	Diameter Flanges, Inches	Thickness Flanges, Inches	Diameter Bolt Circles, Inches	Number of Bolts	Size Bolts, Inches	Length of Bolts, Inches
2	6½	7/8	5	4	5/8	2½
2½	7½	1	5⅞	4	¾	3
3	8¼	1⅛	6⅝	8	¾	3¼
3½	9	1⅜	7¼	8	¾	3¼
4	10	1½	7⅞	8	¾	3½
4½	10½	1⅝	8½	8	¾	3½
5	11	1⅞	9¼	8	¾	3¾
6	12½	1⅞	10⅝	12	¾	3¾
7	14	1½	11⅞	12	1	4¼
8	15	1 5/8	13	12	1	4¼
10	17½	1⅞	15¼	16	1	5
12	20½	2	17¾	16	1⅞	5½
14	23	2⅛	20¼	20	1⅞	5¾
16	25½	2¼	22½	20	1¼	6

In ordering flanged fittings always specify if they are wanted with flanges drilled. Flanged fittings will always be furnished faced only unless otherwise ordered.



2952 N

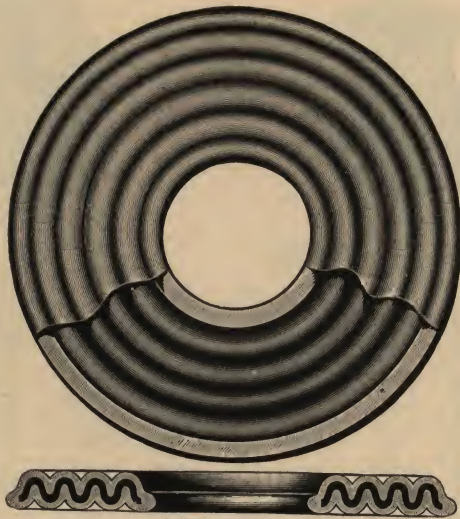
MACHINE BOLTS, PLATE 2952 N

Diameter, inches	¼	⅜	½	¾	1	1½	2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	9	10	11	12	13	14	15	16	17	18	19	20								
1½ inches long, per 100	\$1.70	\$2.00	\$2.40	\$2.80	\$ 3.60	\$ 5.20	\$ 7.70	\$10.50	\$15.10	\$22.50	\$30.00																												
2 inches long, per 100	1.78	2.12	2.56	3.00	3.86	5.58	8.25	11.20	16.00	23.70	31.50																												
2½ inches long, per 100	1.86	2.24	2.72	3.20	4.12	5.96	8.80	11.90	16.90	24.90	33.00																												
3 inches long, per 100	1.94	2.36	2.88	3.40	4.38	6.34	9.35	12.60	17.80	26.10	34.50																												
3½ inches long, per 100	2.02	2.48	3.04	3.60	4.64	6.72	9.90	13.30	18.70	27.30	36.00																												
4 inches long, per 100	2.10	2.60	3.20	3.80	4.90	7.10	10.45	14.00	19.60	28.50	37.50																												
4½ inches long, per 100	2.18	2.72	3.36	4.00	5.16	7.48	11.00	14.70	20.50	29.70	39.00																												
5 inches long, per 100	2.26	2.84	3.52	4.20	5.42	7.86	11.55	15.40	21.40	30.90	40.50																												
5½ inches long, per 100	2.34	2.96	3.68	4.40	5.68	8.24	12.10	16.10	22.30	32.10	42.00																												
6 inches long, per 100	2.42	3.08	3.84	4.60	5.94	8.62	12.65	16.80	23.20	33.30	43.50																												
6½ inches long, per 100	2.50	3.20	4.00	4.80	6.20	9.00	13.20	17.50	24.10	34.50	45.00																												
7 inches long, per 100	2.58	3.32	4.16	5.00	6.46	9.38	13.75	18.20	25.00	35.70	46.50																												
7½ inches long, per 100	2.66	3.44	4.32	5.20	6.72	9.76	14.30	18.90	25.90	36.90	48.00																												
8 inches long, per 100	2.74	3.56	4.48	5.40	6.98	10.14	14.85	19.60	26.80	38.10	49.50																												
9 inches long, per 100	2.90	3.80	4.80	5.80	7.50	10.90	15.95	21.00	28.60	40.50	52.50																												
10 inches long, per 100	3.06	4.04	5.12	6.20	8.02	11.66	17.05	22.40	30.40	42.90	55.50																												
11 inches long, per 100	3.22	4.28	5.44	6.60	8.54	12.42	18.15	23.80	32.20	45.30	58.50																												
12 inches long, per 100	3.38	4.52	5.76	7.00	9.06	13.18	19.25	25.20	34.00	47.70	61.50																												
13 inches long, per 100																																							
14 inches long, per 100																																							
15 inches long, per 100																																							
16 inches long, per 100																																							
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18 inches long, per 100																																							
19 inches long, per 100																																							
20 inches long, per 100																																							

Bolts with hexagon heads or hexagon nuts, 10 per cent extra. Bolts with both hexagon heads and nuts, 20 per cent extra.



No. 1



2953 N

No. 2



2954 N

GOETZE'S GASKETS, PLATE 2953 N AND PLATE 2954 N

For Standard Flanged Fittings.

Size of Pipe, Inches	Size of Gaskets, Inches	Per Gasket, No. 1, Each	Per Gasket, No. 2, Each
2	2 1/4 x 4	\$0.08	\$0.32
2 1/2	2 3/4 x 4 3/4	.10	.40
3	3 1/4 x 5 1/4	.12	.48
3 1/2	3 3/4 x 6 1/4	.14	.56
4	4 1/4 x 6 3/8	.16	.64
4 1/2	4 3/4 x 6 7/8	.18	.72
5	5 1/4 x 7 3/8	.20	.80
6	6 1/4 x 8 3/8	.24	.96
7	7 1/4 x 9 7/8	.28	1.12
8	8 1/4 x 10 7/8	.32	1.28
9	9 1/4 x 12 3/8	.36	1.44
10	10 1/4 x 13 3/4	.40	1.60
12	12 1/4 x 16	.48	1.92
14	14 1/2 x 17 5/8	.56	2.24

For Extra Heavy Flanged Fittings.

Size of Pipe, Inches	Size of Gaskets, Inches	Per Gasket, No. 1, Each	Per Gasket, No. 2, Each
2	2 1/4 x 4 1/4	\$0.10	\$0.36
2 1/2	2 3/4 x 5	.12	.45
3	3 1/4 x 5 7/8	.15	.54
3 1/2	3 3/4 x 6 1/2	.18	.63
4	4 1/4 x 7	.20	.72
4 1/2	4 3/4 x 7 5/8	.23	.81
5	5 1/4 x 8 3/4	.25	.90
6	6 1/4 x 9 3/4	.30	1.08
7	7 1/4 x 10 7/8	.35	1.26
8	8 1/4 x 12	.40	1.44
9	9 1/4 x 13	.45	1.62
10	10 1/4 x 14 1/4	.50	1.80
12	12 1/4 x 16 3/4	.60	2.16
14	14 1/2 x 19	.70	2.52

Rubber Ring Gasket



2954 1/2 N

Full Face Gasket

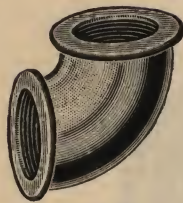


2955 N

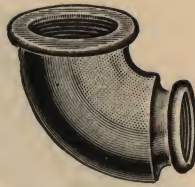
GASKETS, PLATE 2954 1/2 N AND PLATE 2955 N

For Standard Flanged Valves and Fittings.

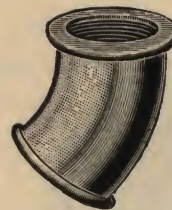
Size of Valve or Fitting, Inches	Ring Gaskets.				Full Face Gaskets.			
	1/16-Inch Cloth Insertion Gaskets, Each	1/16-Inch Rain-bow Gaskets, Each	1/8-Inch Asbestos Gaskets, Each	Inside and Outside Diameters, Inches	1/16-Inch Cloth Insertion Gaskets, Each	1/16-Inch Rain-bow Gaskets, Each	1/8-Inch Asbestos Gaskets, Each	Inside and Outside Diameters, Inches
2	\$0.03	\$0.08	\$0.12	2 x 4	\$0.08	\$0.16	\$0.23	2 x 6
2 1/2	.04	.10	.15	2 1/2 x 4 7/8	.10	.20	.27	2 1/2 x 7
3	.05	.12	.18	3 x 5 3/8	.12	.24	.36	3 x 7 1/2
3 1/2	.06	.16	.20	3 1/2 x 6 3/8	.13	.32	.41	3 1/2 x 8 1/2
4	.07	.18	.22	4 x 6 3/4	.15	.35	.45	4 x 9
4 1/2	.07	.20	.23	4 1/2 x 7	.16	.40	.60	4 1/2 x 9 1/4
5	.08	.24	.25	5 x 7 3/4	.18	.48	.63	5 x 10
6	.10	.28	.30	6 x 8 3/4	.20	.56	.68	6 x 11
7	.12	.32	.35	7 x 10	.25	.64	.80	7 x 12 1/2
8	.13	.35	.40	8 x 11	.28	.70	.90	8 x 13 1/2
9	.16	.40	.45	9 x 12 1/2	.35	.80	.95	9 x 15
10	.18	.48	.60	10 x 13 1/4	.38	.95	1.05	10 x 16
12	.25	.60	.70	12 x 16	.50	1.20	1.15	12 x 19
14	.30	.75	.80	14 x 17 3/4	.55	1.35	1.25	14 x 21



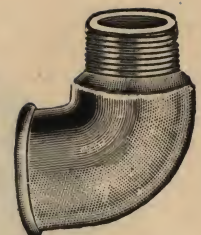
3015 N



3016 N



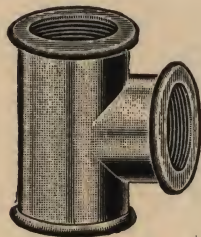
3017 N



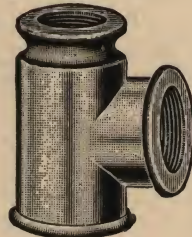
3018 N

BRASS FITTINGS—STANDARD IRON PIPE THREAD

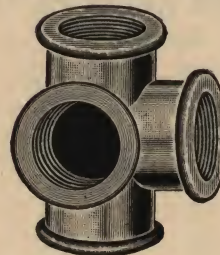
Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Plate 3015 N, elbow, rough, each	\$0.12	\$0.15	\$0.20	\$0.28	\$0.40	\$0.63	\$0.90	\$1.20	\$2.00	\$3.50	\$ 6.00	\$ 8.00	\$10.00
Plate 3015 N, elbow, finished, each	.30	.35	.45	.56	.75	1.10	1.55	2.00	3.00	5.50	9.00	14.00	17.50
Plate 3015 N, elbow, nickel plated, each	.36	.42	.53	.65	.87	1.25	1.75	2.25	3.35	6.15	10.00	16.00	20.00
Plate 3016 N, reducing ell, rough, each	.19	.25	.35	.50	.80	1.10	1.50	2.50	3.75	6.75	11.25	17.50	22.00
Plate 3016 N, reducing ell, finished, each	.44	.55	.70	.95	1.40	1.90	2.50	3.75	6.75	11.25	17.50	22.00	
Plate 3016 N, reducing ell, n. p., each	.52	.65	.82	1.10	1.60	2.15	2.85	4.15	7.60	12.50	20.00	25.00	
Plate 3017 N, 45° elbow, rough, each	.16	.20	.25	.31	.40	.63	.90	1.20	2.00	3.50	6.00	8.00	10.00
Plate 3017 N, 45° elbow, finished, each	.38	.45	.55	.66	.85	1.23	1.70	2.20	3.25	6.00	9.75	15.50	19.50
Plate 3017 N, 45° elbow, nickel plated, each	.45	.53	.65	.78	1.00	1.43	1.95	2.55	3.65	6.85	11.00	18.00	22.50
Plate 3018 N, street elbow, rough, each	.25	.27	.33	.48	.63	.85	1.50	2.00	3.25	6.00	10.00		
Plate 3018 N, street elbow, finished, each	.47	.52	.63	.83	1.08	1.45	2.30	3.00	4.50	8.50	13.75		
Plate 3018 N, street elbow, n. p., each	.54	.60	.73	.95	1.23	1.65	2.55	3.35	4.90	9.35	15.00		



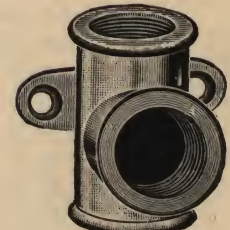
3020 N



3021 N

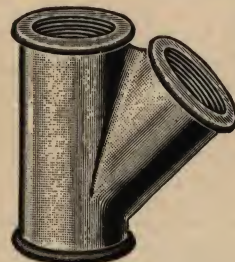


3022 N

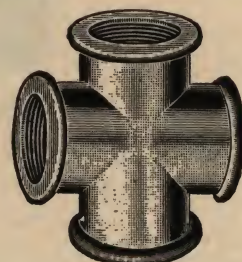


3023 N

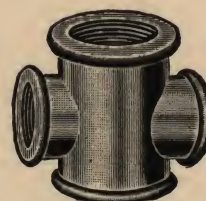
Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Plate 3020 N, tee, rough, each	\$0.17	\$0.21	\$0.28	\$0.40	\$0.55	\$0.85	\$1.25	\$1.70	\$2.80	\$5.00	\$ 8.50	\$11.00	\$14.00
Plate 3020 N, tee, finished, each	.42	.49	.63	.80	1.05	1.50	2.15	2.80	4.20	7.75	12.75	19.50	24.50
Plate 3020 N, tee, nickel plated, each	.50	.58	.75	.93	1.22	1.70	2.45	3.15	4.65	8.65	14.00	22.30	28.00
Plate 3021 N, reducing tee, rough, each	.25	.35	.50	.70	1.05	1.55	2.10	3.50	6.25	10.50	14.00	17.50	
Plate 3021 N, reducing tee, finished, each	.60	.77	1.00	1.30	1.85	2.65	3.50	5.25	9.75	15.80	24.50	30.50	
Plate 3021 N, reducing tee, n. p., each	.72	.90	1.15	1.50	2.10	3.00	3.95	5.85	10.90	17.50	28.00	35.00	
Plate 3022 N, side outlet tee, rough, each				1.20	1.65	2.50	3.75	5.00	8.50				
Plate 3022 N, side outlet tee, finished, each				2.05	2.70	3.90	5.70	7.40	11.50				
Plate 3022 N, side outlet tee, n. p., each				2.35	3.05	4.35	6.35	8.20	12.50				
Plate 3023 N, drop tee, rough, each		.43	.57	.80	1.25	1.85	2.50	4.20					
Plate 3023 N, drop tee, finished, each		1.13	1.37	1.80	2.55	3.65	4.70	7.00					
Plate 3023 N, drop tee, nickel plated, each		1.33	1.62	2.15	2.95	4.25	5.45	7.90					



3025 N



3026 N



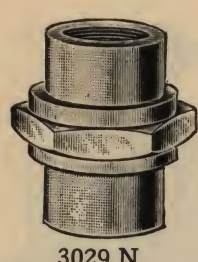
3027 N



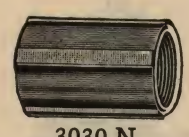
3028 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Plate 3025 N, Y bend, rough, each	\$...	\$...	\$0.60	\$0.75	\$1.10	\$1.65	\$2.50	\$3.30	\$5.50	\$9.50	\$16.00	\$21.00	\$26.00
Plate 3025 N, Y bend, finished, each			1.35	1.60	2.15	3.05	4.45	5.70	8.50	15.50	25.00	33.00	41.00
Plate 3025 N, Y bend, nickel plated, each			1.60	1.90	2.50	3.50	5.10	6.50	9.50	17.50	28.00	37.00	46.00
Plate 3026 N, cross, rough, each	.25	.30	.40	.55	.80	1.25	1.80	2.40	4.00	7.00	12.00	16.00	20.00
Plate 3026 N, cross, finished, each	.60	.70	.90	1.10	1.50	2.20	3.10	4.00	6.00	11.00	18.00	28.00	35.00
Plate 3026 N, cross, nickel plated, each	.72	.84	1.05	1.30	1.75	2.50	3.50	4.50	6.70	12.30	20.00	32.00	40.00
Plate 3027 N, reducing cross, rough, each	.38	.50	.70	1.00	1.55	2.25	3.00	5.00	8.75	15.00	20.00	25.00	
Plate 3027 N, reducing cross, finished, each	.88	1.10	1.40	1.85	2.75	3.85	5.00	7.50	13.75	22.50	35.00	44.00	
Plate 3027 N, reducing cross, n. p., each	1.05	1.30	1.65	2.15	3.15	4.35	5.70	8.30	15.40	25.00	40.00	50.00	
Plate 3028 N, return bend, open, rough, each		.60	.80	1.10	1.40	2.15	3.00	4.75	8.25	11.00			
Plate 3028 N, return bend, open, finished, each		1.35	1.65	2.15	2.80	4.10	5.40	7.75	14.25	20.00			
Plate 3028 N, return bend, open, nickel plated, each		1.60	1.95	2.50	3.25	4.75	6.20	8.75	16.25	23.00			
Return bend, close (not illustrated), rough, each		.55	.70	1.00	1.25	1.80	2.50	4.25	7.00	10.00			
Return bend, close (not illustrated), finished, each		1.30	1.55	2.05	2.65	3.75	4.90	7.25	13.00	19.00			
Return bend, close (not illustrated), n. p., each		1.55	1.85	2.40	3.10	4.40	5.70	8.25	15.00	22.00			

For right and left-hand return bends add 25 per cent to above lists.



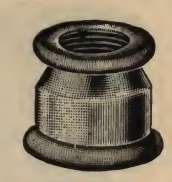
3029 N



3030 N



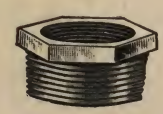
3031 N



3032 N

BRASS FITTINGS—STANDARD IRON PIPE THREAD

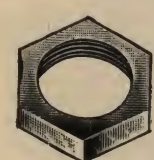
Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Plate 3029 N, union, rough, each	\$0.40	\$0.50	\$0.65	\$0.85	\$1.15	\$1.60	\$2.25	\$2.70	\$4.00	\$7.50	\$11.50	\$20.00	\$27.00
Plate 3029 N, union, finished, each	.50	.60	.85	1.05	1.40	1.90	2.75	3.25	5.00	9.00	14.00	25.00	33.00
Plate 3030 N, coupling, right-hand, rough, each	.10	.13	.17	.25	.37	.55	.80	1.00	1.60	2.50	3.50	5.25	7.00
Plate 3030 N, coupling, right-hand, finished, each	.24	.28	.36	.46	.63	.90	1.30	1.60	2.35	4.00	5.75	9.75	12.50
Plate 3030 N, coupling, right-hand, nickel plated, each	.29	.33	.42	.53	.72	1.00	1.45	1.80	2.60	4.50	6.50	11.25	14.25
Plate 3031 N, coupling, right and left, rough, each	.13	.17	.22	.30	.45	.70	1.00	1.30	2.00	3.10	4.50	.....	.....
Plate 3031 N, coupling, right and left, finished, each	.31	.37	.47	.58	.80	1.15	1.65	2.10	3.00	5.10	7.50	.....	.....
Plate 3031 N, coupling, right and left, nickel plated, each	.37	.44	.55	.67	.92	1.30	1.85	2.35	3.35	5.75	8.50	.....	.....
Plate 3032 N, reducer, rough, each	.15	.20	.28	.40	.60	.90	1.10	1.75	2.75	4.00	6.00	8.00	.....
Plate 3032 N, reducer, finished, each	.35	.45	.56	.75	1.05	1.55	1.90	2.75	4.75	7.00	12.00	15.50	.....
Plate 3032 N, reducer, nickel plated, each	.42	.53	.65	.87	1.20	1.75	2.15	3.10	5.40	8.00	14.00	18.00	.....



3032 1/2 N



3033 N



3034 N



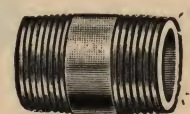
3035 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Plate 3032 1/2 N, bushing, rough, each	\$0.10	\$0.12	\$0.15	\$0.22	\$0.35	\$0.50	\$0.70	\$1.00	\$1.50	\$2.50	\$3.75	\$5.00
Plate 3032 1/2 N, bushing, finished, each22	.27	.35	.47	.70	1.00	1.40	2.00	3.00	4.50	6.25	8.00
Plate 3032 1/2 N, bushing, nickel plated, each26	.32	.42	.55	.82	1.15	1.65	2.35	3.50	5.15	7.10	9.00
Plate 3033 N, plug, rough, each08	.10	.12	.15	.20	.30	.45	.60	.95	1.50	2.25	3.75
Plate 3033 N, plug, finished, each23	.30	.37	.43	.55	.75	1.00	1.30	1.95	3.00	4.25	6.25
Plate 3033 N, plug, nickel plated, each28	.37	.45	.52	.67	.90	1.20	1.55	2.30	3.50	4.90	7.10
Plate 3034 N, locknut, rough, each10	.10	.12	.15	.20	.28	.40	.55	.80	1.15	1.75	2.75
Plate 3034 N, locknut, finished, each24	.25	.32	.40	.50	.65	.85	1.10	1.60	2.25	3.45	5.00
Plate 3034 N, locknut, nickel plated, each29	.30	.39	.48	.60	.77	1.00	1.30	1.85	2.75	4.00	5.75
Plate 3035 N, plain cap, rough, each10	.13	.16	.20	.30	.42	.60	.80	1.25	2.50	3.50	5.50
Plate 3035 N, plain cap, finished, each20	.25	.31	.40	.55	.77	1.10	1.50	2.25	3.40	5.00	7.00
Plate 3035 N, plain cap, nickel plated, each23	.29	.36	.47	.63	.89	1.25	1.75	2.60	4.50	6.15	8.85

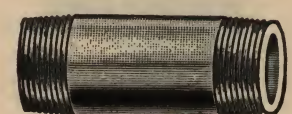
Reducers, bushings and bushings faced, reducing more than two sizes, add 25 per cent to above lists.



3036 N



3037 N



3038 N

BRASS NIPPLES, PLATE 3036 N TO PLATE 3038 N

Size	Length, inches	Close	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
1/8 inch, each	\$0.11	\$0.13	\$0.15	\$0.17	\$0.19	\$0.21	\$0.23	\$ 0.25	\$ 0.27	\$ 0.29	\$ 0.31
1/4 inch, each13	.16	.19	.22	.25	.28	.31	.34	.37	.40	.43
3/8 inch, each15	.19	.23	.27	.31	.35	.39	.43	.47	.51	.55
1/2 inch, each23	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70
3/4 inch, each28	.....	.35	.42	.49	.56	.63	.70	.77	.84	.91
1 inch, each37	.....	.44	.53	.62	.71	.80	.89	.98	1.07	1.16
1 1/4 inches, each60	.....	.....	.75	.88	1.01	1.14	1.27	1.40	1.53	1.66
1 1/2 inches, each70	.....	.....	.90	1.05	1.20	1.35	1.50	1.65	1.80	1.95
2 inches, each	1.00	.....	.....	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60
2 1/2 inches, each	1.70	.....	.....	.....	2.00	2.30	2.60	2.90	3.20	3.50	3.80
3 inches, each	2.50	.....	.....	.....	2.90	3.30	3.70	4.10	4.50	4.90	5.30
3 1/2 inches, each	4.00	.....	.....	.....	.....	.....	5.40	6.00	6.60	7.20	7.80
4 inches, each	4.75	.....	.....	.....	.....	.....	6.15	6.85	7.55	8.25	8.95
4 1/2 inches, each	5.50	.....	.....	.....	.....	.....	7.20	8.05	8.90	9.75	10.60
5 inches, each	8.50	.....	.....	.....	.....	.....	.....	10.60	11.65	12.70	13.75
6 inches, each	11.50	.....	.....	.....	.....	.....	.....	14.10	15.40	16.70	18.00

Note.—Polished brass nipples longer than close, 25 per cent extra.



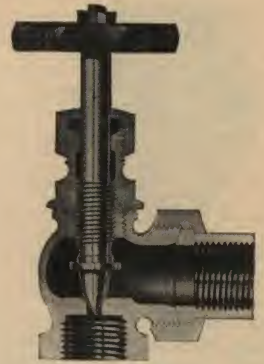
3039 N



3040 N



3041 N



3042 N

STANDARD BRASS VALVES, PLATE 3039 N TO PLATE 3042 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1
Globe valves, each	\$0.72	\$0.72	\$0.77	\$1.00	\$1.26	\$1.80
Angle valves, each	.72	.72	.77	1.00	1.26	1.80
Cross valves, each		1.25	1.25	1.50	2.00	2.50
Needle valves, each		2.00	2.20	3.00	3.50	....
Globe valves, with Jenkins discs, each	1.10	1.10	1.25	1.60	2.20	2.80
Angle valves, with Jenkins discs, each	1.10	1.10	1.25	1.60	2.20	2.80
Cross valves, with Jenkins discs, each		1.70	2.00	2.25	2.50	3.25
Size, inches	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Globe valves, each	\$2.52	\$3.50	\$5.30	\$10.00	\$14.40	\$26.50
Angle valves, each	2.52	3.50	5.30	10.00	14.40	26.50
Cross valves, each	3.50	5.00	8.00	16.00	24.00	45.00
Globe valves, with Jenkins discs, each	4.00	5.50	8.75	15.75	22.00	....
Angle valves, with Jenkins discs, each	4.00	5.50	8.75	15.75	22.00	....
Cross valves, with Jenkins discs, each	4.75	6.25	9.50	....	....	....



3043 N



3044 N



3045 N



3046 N

STANDARD IRON BODY GLOBE AND ANGLE VALVES, PLATE 3043 N TO PLATE 3046 N

Size, inches	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Screwed, plain top, each	\$2.75	\$3.50	\$ 5.40	\$ 7.35	\$ 9.80	\$.....	\$.....
Flanged, plain top, each	3.85	4.80	7.00	9.00	12.50	....	....
Screwed, yoke top, each			7.00	9.00	12.50	15.25	19.00
Flanged, yoke top, each			8.60	10.75	15.00	18.50	22.50
Screwed, plain top, with Jenkins discs, each			7.25	11.00	16.00	....	....
Flanged, plain top, with Jenkins discs, each			8.50	13.00	18.00	....	....
Screwed, yoke top, with Jenkins discs, each			10.00	12.00	16.75	19.50	24.00
Flanged, yoke top, with Jenkins discs, each			11.75	14.00	18.50	21.50	26.00
Size, inches	4 1/2	5	6	7	8	10	12
Screwed, yoke top, each	\$24.00	\$27.00	\$37.50	\$63.00	\$72.00	\$114.00	\$170.00
Flanged, yoke top, each	27.50	31.00	42.00	68.00	77.00	123.00	187.00
Screwed, yoke top, with Jenkins discs, each	32.00	40.00	48.00	80.00	90.00	130.00	185.00
Flanged, yoke top, with Jenkins discs, each	34.00	42.00	50.00	80.00	90.00	130.00	185.00



3047 N



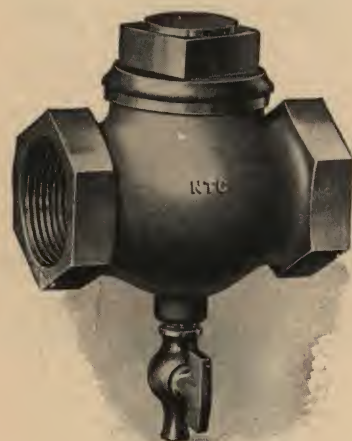
3048 N



3049 N

STANDARD BRASS CHECK VALVES, PLATE 3047 N TO PLATE 3049 N

Size, inches.....	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Horizontal, each	\$0.65	\$0.65	\$0.70	\$0.90	\$1.15	\$1.60	\$2.25	\$3.15	\$4.75	\$ 9.00	\$13.00
Vertical or angle, each.....	.72	.72	.77	1.00	1.26	1.80	2.52	3.50	5.30	10.00	14.40
Horizontal or angle, with Jenkins discs, each		1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	13.50	21.00



3050 N



3051 N



3052 N



3053 N

STANDARD CHECK VALVE, WITH DRIP COCK, PLATE 3050 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2
Brass, horizontal, each.....	\$2.15	\$2.55	\$3.15	\$4.05	\$5.40

STANDARD IRON BODY CHECK VALVES, PLATE 3051 N TO PLATE 3053 N

Size, inches	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2
Horizontal or angle, screwed, each	\$1.50	\$2.20	\$2.65	\$ 3.60	\$ 6.50	\$ 8.90	\$12.25
Horizontal or angle, flanged, each						11.50	15.50
Vertical, screwed, each				7.00	9.50	12.50	17.00
Vertical, flanged, each				8.75	11.50	15.00	20.00
Horizontal, vertical and angle, with Jenkins discs, screwed, each				8.00	11.00	14.00	17.00
Horizontal, vertical and angle, with Jenkins discs, flanged, each				10.00	13.00	16.50	20.00
Size, inches	4	4 1/2	5	6	7	8	10
Horizontal or angle, screwed, each	\$14.25	\$19.00	\$22.00	\$30.00	\$45.00	\$57.00	\$105.00
Horizontal or angle, flanged, each	18.00	22.50	26.00	35.00	50.00	62.00	115.00
Vertical, screwed, each	21.00	30.00	33.00	40.00	62.00	73.00	.....
Vertical, flanged, each	25.00	33.50	37.00	45.00	67.00	78.00	.....
Horizontal, vertical and angle, with Jenkins discs, screwed, each	20.00	25.00	30.00	40.00	65.00	80.00	.....
Horizontal, vertical and angle, with Jenkins discs, flanged, each	23.00	28.00	33.00	43.00	65.00	80.00	.....



3054 N



3055 N



3056 N

BRASS SWING CHECK VALVE, PLATE 3054 N

Size, inches	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Screw ends, each.....	\$1.80	\$2.00	\$2.25	\$2.80	\$3.65	\$4.75	\$6.75	\$15.00	\$24.00

IRON BODY SWING CHECK VALVES, PLATE 3055 N AND PLATE 3056 N

Size, inches	2 1/2	3	3 1/2	4	4 1/2	5
Screw ends, each.....	\$12.00	\$13.50	\$17.50	\$20.00	\$26.00	\$30.00
Flange ends, each.....	14.50	17.00	21.00	24.00	30.00	34.00
Hub ends, each.....		19.00	.....	27.00	.....	38.00



3057 N

Size, inches	6	7	8	10	12
Screw ends, each.....	\$36.00	\$55.00	\$70.00	\$110.00	\$160.00
Flange ends, each.....	41.00	60.00	75.00	115.00	168.00
Hub ends, each.....	45.00	.....	82.50	125.00	185.00

EXTRA HEAVY BRASS VALVES, PLATE 3057 N

For 250 Pounds Working Pressure.

Size, inches	1/4	3/8	1/2	3/4	1
Globe or angle, each.....	\$1.30	\$1.50	\$1.90	\$2.50	\$3.50
Size, inches	1 1/4	1 1/2	2	2 1/2	
Globe or angle, each.....	\$5.00	\$7.00	\$11.00	\$20.00	



3058 N



3059 N



3060 N

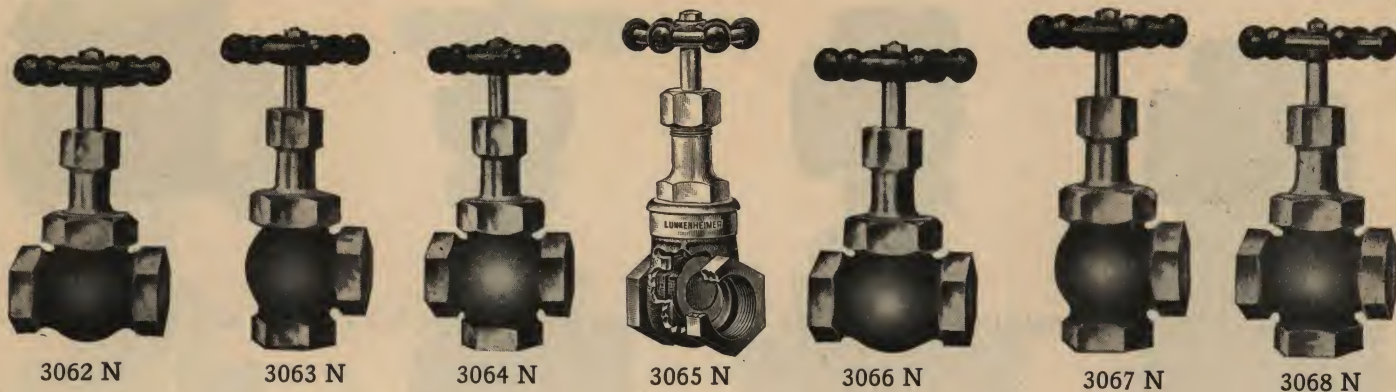


3061 N

EXTRA HEAVY IRON BODY VALVES, PLATE 3058 N TO PLATE 3061 N

For 250 Pounds Working Pressure.

Size, inches	2	2 1/2	3	3 1/2	4	4 1/2
Globe or angle, screwed, each	\$26.00	\$33.00	\$37.00	\$42.00	\$46.00	\$56.00
Globe or angle, flanged, each	27.50	35.00	40.00	45.00	50.00	60.00
Size, inches	5	6	7	8	10	
Globe or angle, screwed, each	\$61.00	\$75.00	\$ 95.00	\$114.00	\$190.00	
Globe or angle, flanged, each	65.00	80.00	100.00	120.00	200.00	



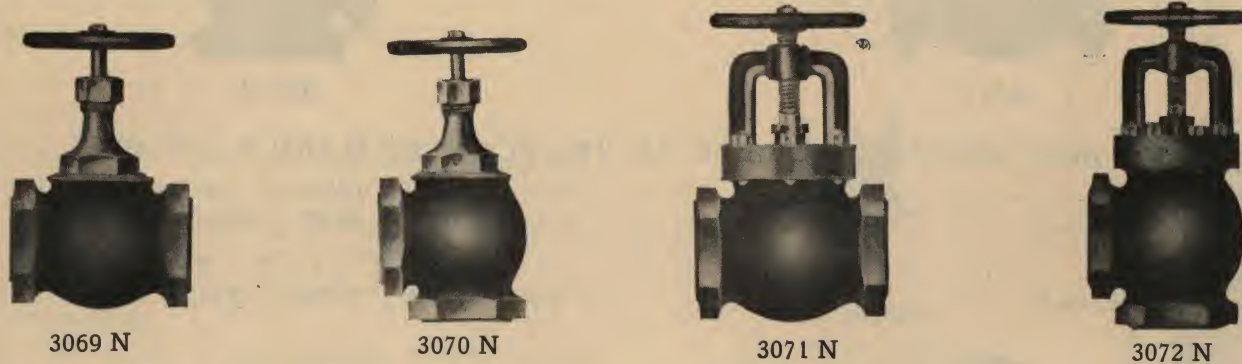
BRASS REGRINDING VALVES, PLATE 3062 N TO PLATE 3065 N

Size, inches.....	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Globe valves, each.....	\$0.70	\$0.70	\$0.85	\$1.15	\$1.45	\$2.00	\$2.80	\$3.90	\$6.20	\$12.00	\$16.50
Angle valves, each.....	.70	.70	.85	1.15	1.45	2.00	2.80	3.90	6.20	12.00	16.50
Cross valves, each.....	1.00	1.00	1.00	1.50	2.00	2.70	3.50	5.10	8.00	16.00	24.00
Gate valves, each.....		1.10	1.10	1.30	1.90	2.50	3.50	5.00	7.50	14.00	20.00

EXTRA HEAVY REGRINDING BRASS VALVES, PLATE 3066 N TO PLATE 3068 N

For 300 Pounds Working Pressure

Size, inches.....	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Globe valves, each.....	\$0.90	\$1.10	\$1.50	\$2.30	\$3.60	\$5.10	\$7.10	\$10.90	\$19.50	\$29.00
Angle valves, each.....	.90	1.10	1.50	2.30	3.60	5.10	7.10	10.90	19.50	29.00
Cross valves, each.....	1.20	1.30	1.90	2.90	4.50	6.30	8.60	13.10	23.40	34.50



REGRINDING IRON BODY GLOBE AND ANGLE VALVES, WITHOUT YOKE, PLATE 3069 N AND PLATE 3070 N

Size, inches.....	1	1 1/4	1 1/2	2	2 1/2	3
Globe and angle valves, screw ends, each.....	\$2.50	\$3.50	\$4.40	\$6.10	\$ 8.70	\$12.50
Globe and angle valves, flange ends, each.....	3.50	4.60	5.70	7.70	10.50	15.20

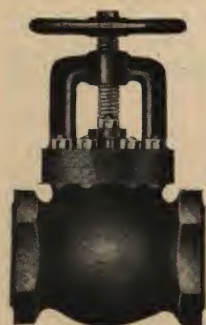
REGRINDING IRON BODY GLOBE AND ANGLE VALVES, WITH YOKE, PLATE 3071 N AND PLATE 3072 N

Size, inches.....	2	2 1/2	3	3 1/2	4
Globe and angle valves, screw ends, each.....	\$ 8.40	\$11.00	\$14.00	\$18.00	\$22.00
Globe and angle valves, flange ends, each.....	10.00	12.50	17.00	20.50	25.00
Size, inches.....	4 1/2	5	6	7	8
Globe and angle valves, screw ends, each.....	\$26.00	\$35.00	\$43.00	\$63.00	\$82.00
Globe and angle valves, flange ends, each.....	30.00	36.00	47.00	68.00	85.00

REGRINDING EXTRA HEAVY IRON BODY VALVES, PLATE 3073 N AND PLATE 3074 N

For 175 Pounds Working Pressure

Size, inches.....	2	2 1/2	3	3 1/2	4	4 1/2
Globe and angle valves, screwed, each....	\$ 8.40	\$11.00	\$14.00	\$18.00	\$22.00	\$26.00
Globe and angle valves, flanged, each....	12.40	15.25	20.00	24.00	28.50	34.50
Size, inches.....	5	6	7	8	10	12
Globe and angle valves, screwed, each....	\$35.00	\$43.00	\$63.00	\$82.00	\$125.00	\$170.00
Globe and angle valves, flanged, each....	41.00	53.00	75.00	93.00	137.00	200.00



3073 N



3074 N



3075 N



3076 N



3077 N



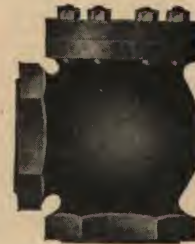
3078 N

BRASS REGRINDING CHECK VALVES, PLATE 3075 N TO PLATE 3078 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1
Horizontal, angle or vertical, each	\$0.50	\$0.50	\$0.60	\$0.85	\$1.15	\$1.55
Swinging, each		2.50	2.50	2.75	3.10	4.00
Size, inches	1 1/4	1 1/2	2	2 1/2	3	
Horizontal, angle or vertical, each	\$2.30	\$3.25	\$ 5.20	\$10.00	\$14.00	
Swinging, each	5.50	7.00	10.00	19.00	27.00	



3079 N



3081 N

IRON BODY REGRINDING CHECK VALVES, PLATE 3079 N AND PLATE 3081 N

Size, inches	2	2 1/2	3	3 1/2	4
Horizontal or angle, each	\$5.70	\$7.50	\$10.00	\$15.00	\$16.50
Size, inches	4 1/2	5	6	8	10
Horizontal or angle, each	\$20.00	\$27.00	\$34.00	\$67.00	\$105.00



3082 N



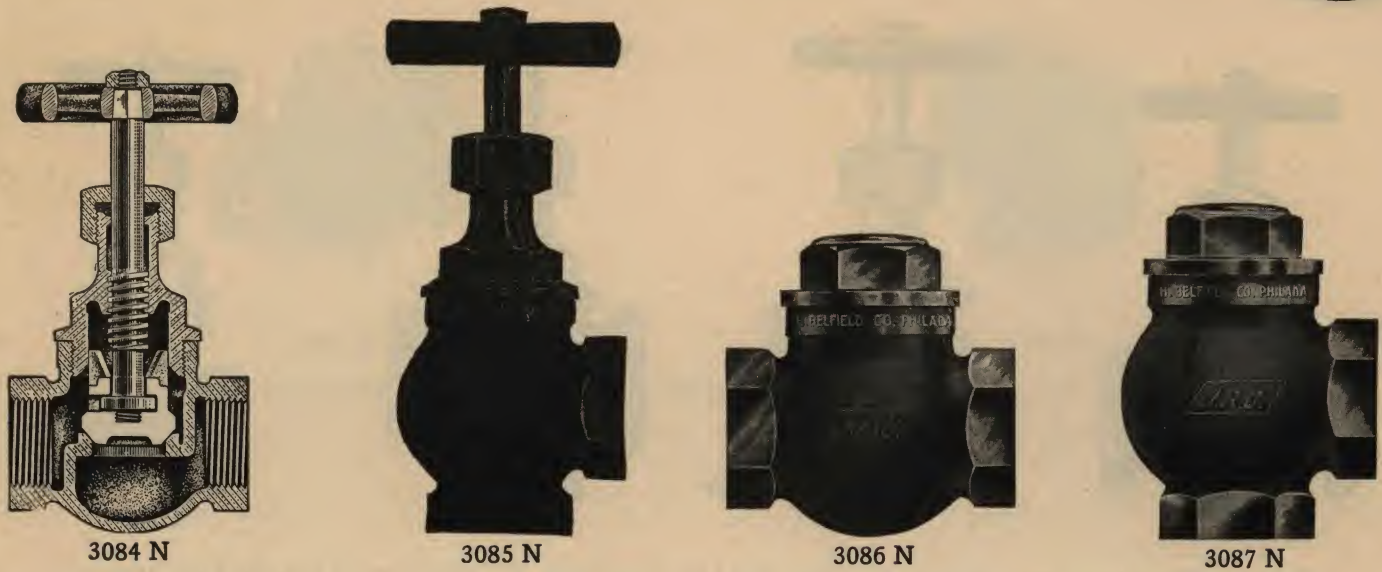
3083 N

BRASS BALL CHECK VALVES, PLATE 3082 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1
Each	\$0.85	\$0.95	\$1.10	\$1.60	\$2.30	\$3.50
Size, inches	1 1/4	1 1/2	2	2 1/2	3	
Each	\$5.30	\$7.50	\$11.50	\$18.00	\$27.00	

BRASS BALLS FOR CHECK VALVES, PLATE 3083 N

Diameter, inches	3/8	1/2	3/4	1	1 1/4	1 1/2
Each	\$0.20	\$0.30	\$0.55	\$0.70	\$0.90	\$1.25
Diameter, inches	1 3/4	2	2 1/4	2 1/2	2 3/4	3
Each	\$2.10	\$2.60	\$3.30	\$4.00	\$5.30	\$6.10



HARD BRONZE RENEWABLE DISC VALVES, PLATE 3084 N TO PLATE 3087 N

Size, inches	1/4	3/8	1/2	3/4	1
Globe or angle valves, each.....	\$1.10	\$1.25	\$1.60	\$2.20	\$2.80
Horizontal or angle check valves, each.....	1.10	1.20	1.30	1.90	2.60
Size, inches	1 1/4	1 1/2	2	2 1/2	3
Globe or angle valves, each.....	\$4.00	\$5.50	\$8.75	\$15.75	\$22.00
Horizontal or angle check valves, each.....	3.60	5.00	7.50	13.50	21.00

These valves are the most satisfactory shut-off, both as to tightness and durability. They have full area, no obstructions in the passages, and may be packed while wide open or under pressure.

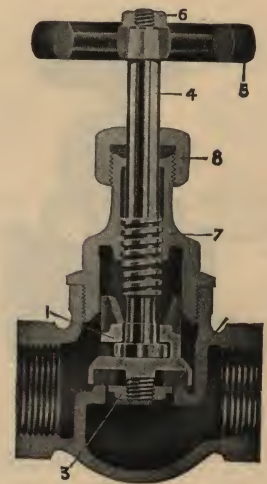
Are carefully made of new metal (hard, high-grade composition).

The disc holder is substantially guided in the stuffing box, no nuts or pins to attach to stem, and slides on or off over a strong collar when so desired. The holder permits inserting discs of various material, such as copper, steam metal, lead, leather, vulcanized composition, etc.



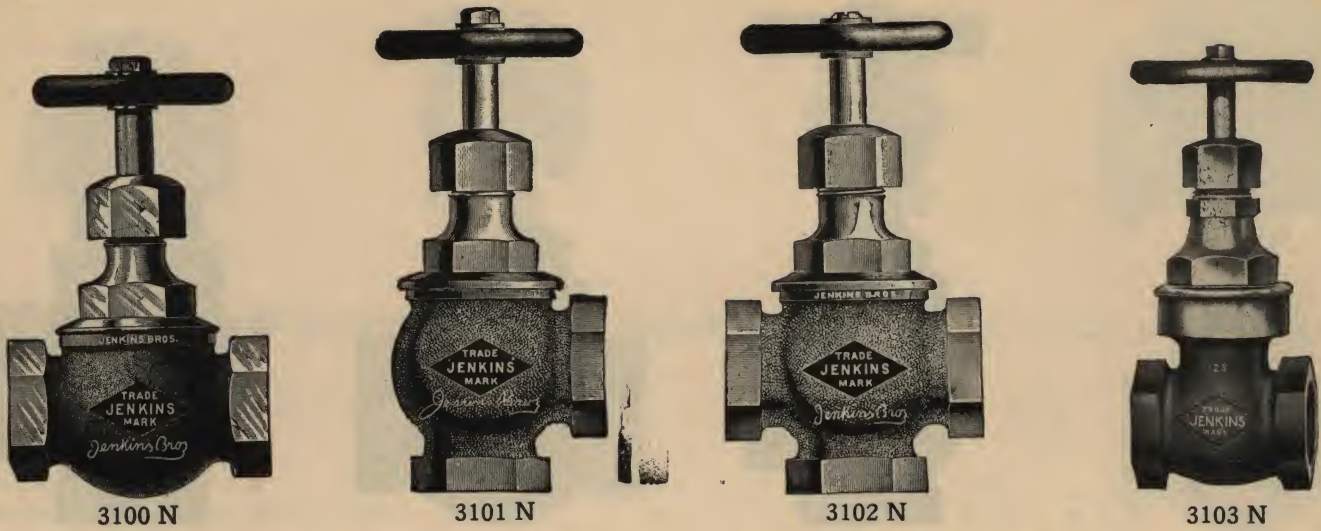
Names of Parts

1. Renewable Disc Holder
2. Renewable Cone Disc
3. Disc Nut
4. Stem (Globe or Angle)
5. Wheel (Iron)
6. Wheel Nut
7. Bonnet
8. Bonnet Nut
9. Disc. Steam Metal or Copper
10. Jenkins' Disc



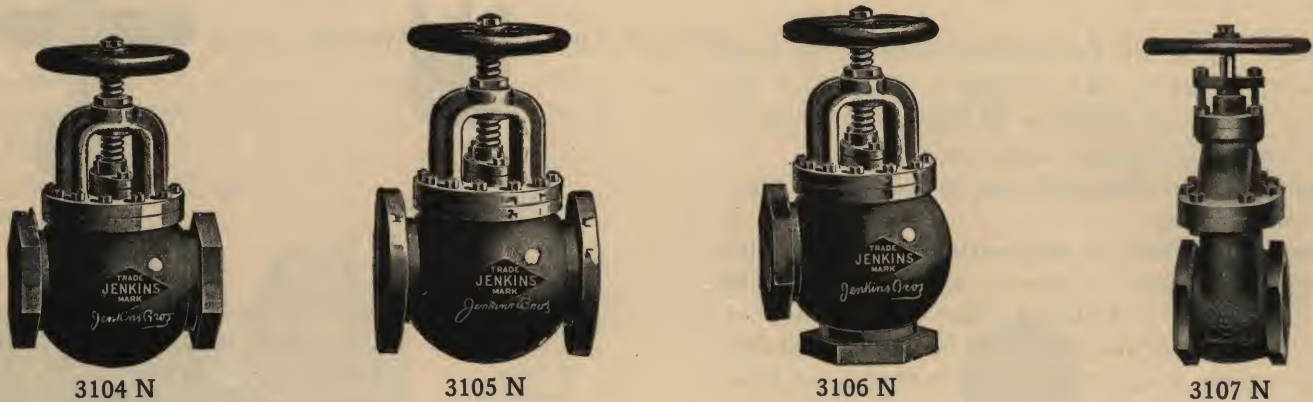
Price List of Parts for Above Valves

No.	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
No. 1.....	\$0.25	\$0.25	\$0.30	\$0.40	\$0.50	\$0.65	\$0.90	\$1.25	\$1.75	\$2.75
No. 2.....	.35	.35	.45	.60	.70	.90	1.20	1.75	2.50	3.75
No. 3.....	.08	.08	.10	.12	.15	.20	.25	.35	.50	.70
No. 4.....	.18	.20	.28	.30	.36	.50	.60	1.10	1.70	1.80
No. 5.....	.04	.04	.05	.06	.08	.10	.14	.20	.30	.44
No. 6.....	.04	.04	.04	.04	.08	.08	.08	.10	.15	.15
No. 7.....	.26	.30	.36	.52	.66	.92	1.30	1.90	3.90	4.90
No. 8.....	.10	.14	.18	.20	.25	.35	.40	.50	.75	1.00
No. 9.....	.14	.14	.16	.20	.22	.28	.30	.34	.60	.85
No. 10.....	.04	.04	.04	.05	.06	.09	.12	.18	.24	.33



JENKINS BROS. OR JENKINS DISC BRASS VALVES, PLATE 3100 N TO PLATE 3103 N.

Size, inches	1/8	1/4	3/8	1/2	3/4	1
Globe and angle valves, each	\$1.10	\$1.10	\$1.25	\$1.60	\$2.20	\$2.80
Cross valves, each		1.70	2.00	2.25	2.50	3.25
Gate valves, each		1.45	1.45	1.65	2.05	2.80
Size, inches	1 1/4	1 1/2	2	2 1/2	3	
Globe and angle valves, each	\$4.00	\$5.50	\$8.75	\$15.75	\$22.00	
Cross valves, each	4.75	6.25	9.50	20.00	27.50	
Gate valves, each	3.70	5.00	7.30	13.00	19.00	



JENKINS BROS. OR JENKINS DISC IRON BODY VALVES, PLATE 3104 N TO PLATE 3107 N

Size, inches	2	2 1/2	3	3 1/2	4	4 1/2
Globe and angle valves, screwed, each	\$10.00	\$12.00	\$16.75	\$19.50	\$24.00	\$32.00
Globe and angle valves, flanged, each	11.75	14.00	18.50	21.50	26.00	34.00
Cross valves (not illustrated), screwed, each		16.00	21.00	26.00	30.00	42.00
Cross valves (not illustrated), flanged, each		19.00	24.00	29.00	33.00	45.00
Gate valves, screwed, each	10.00	11.50	14.00	17.00	19.00	24.00
Gate valves, flanged, each	12.00	13.50	16.50	19.50	23.00	28.00
Size, inches	5	6	7	8	10	12
Globe and angle valves, screwed, each	\$40.00	\$48.00	\$80.00	\$90.00	\$130.00	\$185.00
Globe and angle valves, flanged, each	42.00	50.00	80.00	90.00	130.00	185.00
Cross valves (not illustrated), screwed, each	45.00	58.00	.....	.....	.....	.....
Cross valves (not illustrated), flanged, each	48.00	62.00	.....	.....	.....	.....
Gate valves, screwed, each	27.50	32.50	45.00	54.00	90.00	125.00
Gate valves, flanged, each	31.50	36.50	49.00	58.00	95.00	133.00



3108 N



3109 N

JENKINS BROS. OR JENKINS DISC BRASS CHECK VALVES, PLATE 3108 N AND PLATE 3109 N

Size, inches	1/8	1/4	3/8	1/2	3/4	1
Horizontal or angle, each.....	\$1.10	\$1.10	\$1.20	\$1.30	\$1.90	\$2.60
Size, inches	1 1/4	1 1/2	2	2 1/2	3	
Horizontal or angle, each.....	\$3.60	\$5.00	\$7.50	\$13.50	\$21.00	



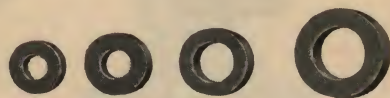
3110 N



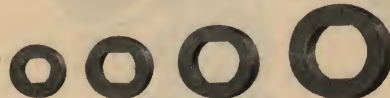
3111 N

JENKINS BROS. OR JENKINS DISC IRON BODY CHECK VALVES, PLATE 3110 N AND PLATE 3111 N

Size, inches	2	2 1/2	3	3 1/2	4
Horizontal or angle, screwed, each	\$ 8.00	\$11.00	\$14.00	\$17.00	\$20.00
Horizontal or angle (not illustrated), flanged, each.....	10.00	13.00	16.50	20.00	23.00
Size, inches	4 1/2	5	6	7	8
Horizontal or angle, screwed, each	\$25.00	\$30.00	\$40.00	\$65.00	\$80.00
Horizontal or angle (not illustrated), flanged, each.....	28.00	33.00	43.00	65.00	80.00



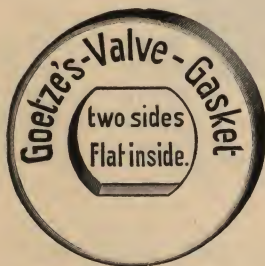
3112 N



3113 N

JENKINS DISCS FOR VALVES, PLATE 3112 N AND PLATE 3113 N

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Each	\$0.03	\$0.04	\$0.04	\$0.05	\$0.06	\$0.09	\$0.12	\$0.18	\$0.24
Size, inches	3	3 1/2	4	4 1/2	5	6	7	8	10
Each	\$0.40	\$0.50	\$0.60	\$0.70	\$0.80	\$1.00	\$1.20	\$1.40	\$2.25



COPPER GASKETS FOR VALVES, PLATE 3114 N

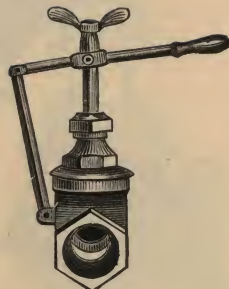
Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Each	\$0.10	\$0.10	\$0.10	\$0.12	\$0.16	\$0.23	\$0.30	\$0.35
Size, inches	2 1/2	3	3 1/2	4	4 1/2	5	6	
Each	\$0.55	\$0.75	\$1.00	\$1.40	\$2.00	\$2.00	\$2.30	



3114 N



3115 N



3116 N



3117 N



3118 N

BRASS GATE VALVES, PLATE 3115 N TO PLATE 3118 N

Size, inches	1/4	3/8	1/2	3/4	1
Plate 3115 N, regular pattern, each	\$1.45	\$1.45	\$1.65	\$2.05	\$2.80
Plate 3116 N, quick opening, each	....	....	3.50	3.60	4.80
Plate 3117 N, service, each	....	....	1.65	2.00	2.75
Plate 3118 N, rising stem, each	....	....	1.50	1.90	2.40
Size, inches	1 1/4	1 1/2	2	2 1/2	3
Plate 3115 N, regular pattern, each	\$3.70	\$5.00	\$ 7.30	\$13.00	\$19.00
Plate 3116 N, quick opening, each	6.20	8.50	11.80	20.25	30.00
Plate 3117 N, service, each	4.00	6.00	8.50	....	....
Plate 3118 N, rising stem, each	3.50	4.60	6.25	13.75	16.00



3119 N



3120 N



3121 N



3122 N



3123 N

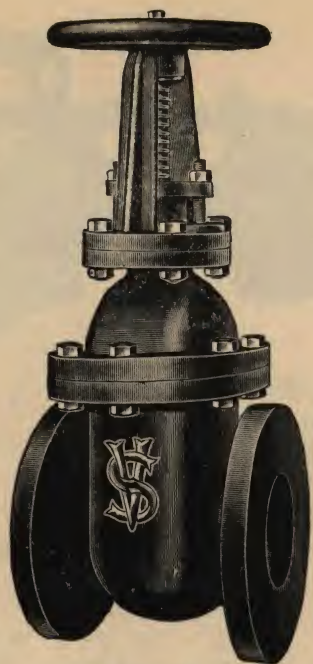
IRON BODY GATE VALVES, PLATE 3119 N TO PLATE 3122 N

Size, inches	2	2 1/2	3	3 1/2	4	4 1/2
Screwed end, each	\$10.00	\$11.50	\$14.00	\$17.00	\$19.00	\$24.00
Hub end, each	10.00	....	14.00	....	19.00	....
Flanged end, each	12.00	13.50	16.50	19.50	23.00	28.00
With indicator, screwed, each	17.50	19.00	22.00	25.00	30.00	37.00
With indicator (not illustrated), flanged, each	19.50	21.00	24.50	27.50	34.00	41.00
Size, inches	5	6	7	8	10	12
Screwed end, each	\$27.50	\$32.50	\$45.00	\$54.00	\$ 90.00	\$125.00
Hub end, each	27.50	32.50	45.00	54.00	90.00	125.00
Flanged end, each	31.50	36.50	49.00	58.00	95.00	133.00
With indicator, screwed, each	42.00	48.00	64.00	80.00	122.00	160.00
With indicator (not illustrated), flanged, each	46.00	52.00	68.00	84.00	127.00	168.00

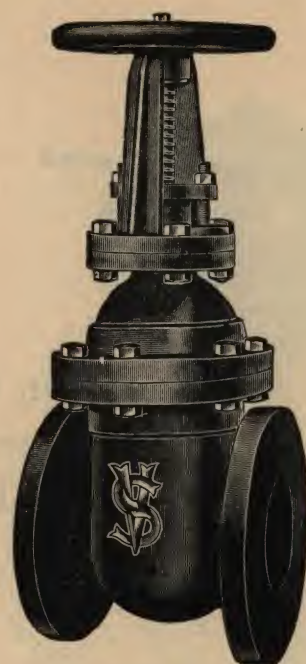
EXTRA HEAVY BRASS GATE VALVE, PLATE 3123 N

(For 300 Pounds Working Pressure.)

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Screw ends, each	\$5.00	\$6.00	\$8.00	\$11.25	\$16.50	\$23.00	\$40.00	\$65.00



3124 N



3125 N

IRON BODY GATE VALVE, PLATE 3124 N

(For 125 Pounds Working Pressure.)

Size, inches	2½	3	3½	4	4½	5
Flanged, each	\$21.00	\$24.50	\$27.50	\$34.00	\$41.00	\$46.00
Size, inches	6	7	8	10	12	
Flanged, each	\$52.00	\$68.00	\$84.00	\$127.00	\$168.00	

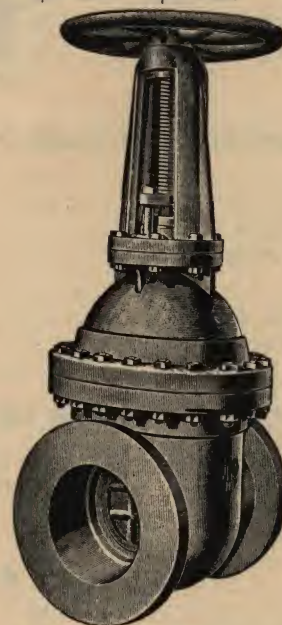
IRON BODY GATE VALVE, PLATE 3125 N

(For 175 Pounds Working Pressure.)

Size, inches	2	2½	3	3½	4	4½
Flanged, each	\$25.50	\$27.50	\$32.00	\$38.00	\$45.00	\$55.00
Size, inches	5	6	7	8	10	12
Flanged, each	\$59.00	\$72.00	\$97.00	\$117.00	\$178.00	\$225.00



3126 N



3127 N

EXTRA HEAVY IRON BODY GATE VALVES, PLATE 3126 N TO PLATE 3127 N

(For 250 Pounds Working Pressure.)

Size, inches	2½	3	3½	4	4½	5
Plate 3126 N, stationary stem, each.....	\$35.50	\$48.00	\$60.00	\$65.00	\$82.00	\$ 90.00
Plate 3127 N, rising stem, each.....	43.50	57.00	70.00	77.00	97.00	105.00
Size, inches	6	7	8	10	12	
Plate 3126 N, stationary stem, each.....	\$107.00	\$132.00	\$162.00	\$258.00	\$335.00	
Plate 3127 N, rising stem, each.....	122.00	147.00	187.00	283.00	390.00	



3128 N



3129 N

STANDARD BRASS SAFETY VALVE, PLATE 3128 N

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$2.20	\$2.50	\$3.25	\$3.90	\$4.70	\$7.15	\$9.00	\$12.50	\$22.50	\$33.50

STANDARD IRON BODY SAFETY VALVE, PLATE 3129 N

Size, inches	1 1/2	2	2 1/2	3	3 1/2	4
Screwed, each	\$5.80	\$7.80	\$13.25	\$17.25	\$23.00	\$28.75
Flanged, each		10.25	16.00	21.50	27.50	34.00
Size, inches	4 1/2	5	6	7	8	
Screwed, each	\$34.50	\$41.50	\$57.75	\$93.50	\$132.00	
Flanged, each	40.00	48.00	65.00	100.00	140.00	



3130 N



3131 N



3132 N.



3133 N

LUNKENHEIMER BRASS POP SAFETY VALVES, PLATE 3130 N AND PLATE 3131 N

Size, inches	3/8	1/2	3/4	1	1 1/4
Capacity for boilers, H. P.	3	5	8	10	15
Brass top outlet, each	\$5.50	\$6.00	\$6.50	\$7.50	\$9.00
Brass side outlet, each	6.00	6.50	7.00	8.20	9.80
Size, inches	1 1/2	2	2 1/2	3	
Capacity for boilers, H. P.	30	50	75	100	
Brass top outlet, each	\$11.50	\$18.00	\$28.00	\$38.00	
Brass side outlet, each	12.40	19.50	30.00	41.00	

LUNKENHEIMER IRON BODY POP SAFETY VALVES (Not Illustrated)

Size, inches	2	2 1/2	3	3 1/2	4
Capacity for boilers, H. P.	35-50	60-75	75-100	100-125	125-150
Side outlet, screwed, each	\$22.00	\$32.00	\$40.00	\$56.00	\$72.00
Side outlet, flanged, each	22.00	32.00	40.00	56.00	72.00

AMERICAN BRASS POP SAFETY VALVE, PLATE 3132 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Capacity for boilers, H. P.	3 to 6	3 to 6	3 to 10	10 to 20	20 to 30	30 to 40	40 to 75	75 to 100
Brass, each	\$9.00	\$9.00	\$11.00	\$13.00	\$16.00	\$24.00	\$40.00	\$68.00

AMERICAN IRON BODY POP SAFETY VALVE, PLATE 3133 N

Size, inches	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Capacity for boilers, H. P.	30-40	40-75	75-100	100-125	125-150	150-175	175-200	225 & up
With bronze seat, each	\$35.00	\$42.00	\$50.00	\$68.00	\$75.00	\$100.00	\$120.00	\$170.00
With nickel seat, each	40.00	48.00	57.00	75.00	87.00	115.00	135.00	190.00

In ordering pop safety valves always state at what pressure the valve is to blow off.



3134 N



3135 N



3136 N

BRASS BLOW-OFF VALVE, PLATE 3134 N

Size, inches	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Brass disc, each	\$0.77	\$1.00	\$1.26	\$1.80	\$2.52	\$3.50	\$5.30
Jenkins disc, each	1.25	1.60	2.20	2.80	4.00	5.50	8.75

IRON BODY BLOW-OFF VALVE, PLATE 3134 N

Size, inches	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Brass disc, each	\$ 7.00	\$ 9.00	\$12.50	\$15.25	\$19.00	\$24.00	\$27.00	\$37.50
Jenkins disc, each	10.00	12.00	16.75	19.50	24.00	32.00	40.00	48.00

PATENT INDESTRUCTIBLE BLOW-OFF VALVE, PLATE 3135 N

Size, inches	1 1/4	1 1/2	2	2 1/2	3	4
Screwed ends, each	\$12.00	\$15.00	\$20.00	\$24.00	\$30.00	\$50.00
Flanged ends, each	13.00	16.00	21.00	25.00	32.00	50.00

EVERLASTING BLOW-OFF VALVE, PLATE 3136 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Brass, screwed, each	\$10.00	\$14.00	\$15.00	\$25.00	\$35.00	\$45.00
Brass, flanged, each		25.00	25.00	35.50	46.00	62.00
Iron body, screwed, each	7.00	10.00	10.00	17.50	20.00	25.00
Iron body, flanged, each		15.00	15.00	20.00	24.00	29.00
Size, inches	2 1/2	3	4	5	6	
Brass, screwed, each	\$60.00	\$ 80.00	\$130.00	\$.....	\$.....	
Brass, flanged, each	79.00	100.00	170.00	.....	.....
Iron body, screwed, each	30.00	45.00	70.00	100.00	120.00	
Iron body, flanged, each	35.00	52.00	78.00	110.00	135.00	



3137 N

SWING JOINT, PLATE 3137 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Rough, each	\$2.50	\$3.50	\$5.00	\$6.50	\$ 9.00	\$13.00
Finished, each	3.00	4.00	5.75	7.25	10.00	15.00

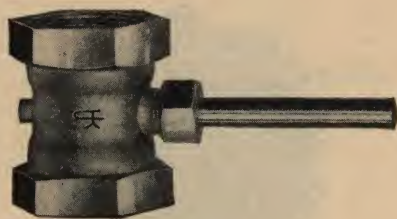


3138 N

FUSIBLE PLUG, PLATE 3138 N

Size, inches	1/2	3/4	1	1 1/4
Each	\$0.60	\$0.75	\$1.00	\$1.50

These plugs are filled with banca tin, fulfilling in every respect the requirements of United States Government, also various state and city laws.



3139 N



3140 N



3141 N

BUTTERFLY VALVES, PLATE 3139 N

Size, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
Brass, each.....	\$3.10	\$4.40	\$5.65	\$6.75	\$10.00	\$13.75	\$21.00	\$.....	\$.....	\$.....	\$.....
Iron body, screwed, each.....	.....	.....	.....	.....	8.00	9.50	12.00	16.00	18.50	28.50	42.50
Iron body, flanged, each.....	.....	.....	.....	.....	9.50	11.50	15.00	19.00	22.00	32.00	47.00

STRAIGHT-WAY HANDY VALVE, PLATE 3140 N

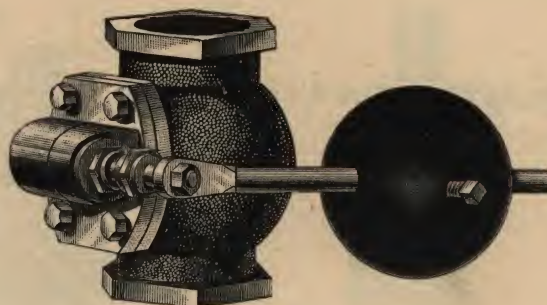
Size, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Brass body, each.....	\$1.80	\$2.50	\$3.50	\$5.00	\$7.50	\$13.50	\$19.00	\$.....	\$.....	\$.....	\$.....	\$.....
Iron body, each.....	.....	.....	.....	.....	7.00	12.00	15.00	18.00	21.00	25.00	30.00	35.00

STANDARD LEVER THROTTLE VALVE, PLATE 3141 N

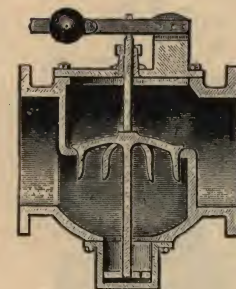
Size, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Brass, each.....	\$3.00	\$4.00	\$5.00	\$7.00	\$10.00	\$19.00	\$.....	\$.....	\$.....
Iron, each.....	.....	.....	.....	.....	.....	16.00	20.00	25.00	30.00



3142 N



3143 N



3144 N

EXPANSION JOINT, PLATE 3142 N

Size, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3		
Traverse, inches.....	2	2 1/4	2 1/2	2 3/4	3	3 1/2	4	4 1/2		
Brass body, each.....	\$1.50	\$2.20	\$2.75	\$4.00	\$5.00	\$8.00	\$17.50	\$24.00		
Size, inches.....	2	2 1/2	3	3 1/2	4	5	6	8	10	12
Traverse, inches.....	2 1/2	2 3/4	3	3 1/4	4	5	7	7	8	8
Iron body, screwed, each.....	\$7.00	\$8.00	\$10.00	\$14.00	\$18.00	\$38.00	\$45.00	\$100.00	\$110.00	\$225.00
Iron body, flanged, each.....	15.00	16.00	18.50	25.00	30.00	48.00	55.00	110.00	175.00	250.00

IRON BODY BACK PRESSURE VALVE, PLATE 3143 N

Size, inches.....	2	2 1/2	3	3 1/2	4	5	6	8	10	12
Screwed ends, each.....	\$11.00	\$13.00	\$15.00	\$19.00	\$22.50	\$33.50	\$43.00	\$85.00	\$120.00	\$180.00
Flanged ends, each.....	12.75	15.00	17.50	22.00	26.00	37.00	47.00	90.00	130.00	200.00

KIELY'S BALANCED BACK PRESSURE VALVE, PLATE 3144 N

Size, inches.....	2	2 1/2	3	3 1/2	4	4 1/2	5	6	8	10	12
Each.....	\$20.00	\$24.00	\$30.00	\$35.00	\$40.00	\$45.00	\$55.00	\$75.00	\$130.00	\$200.00	\$275.00

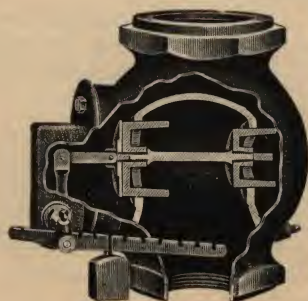
Sizes 2 to 4 inches, inclusive, furnished screwed ends. Larger sizes have flanged ends.

DAVIS NOISELESS BACK PRESSURE VALVE, PLATE 3145 N

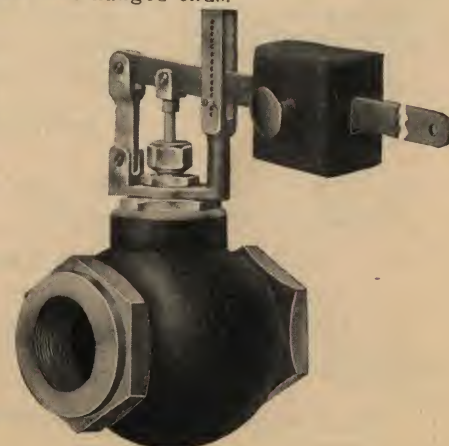
Size, inches..	2	2 1/2	3	3 1/2	4	4 1/2
Each.....	\$14.00	\$16.00	\$18.00	\$22.00	\$25.00	\$30.00
Size, inches.....	5	6	8	10	12	
Each.....	\$40.00	\$60.00	\$100.00	\$145.00	\$220.00	

DAVIS BALANCED VALVE WITH LEVER, PLATE 3146 N

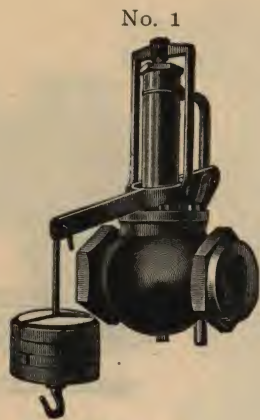
Size, inches.....	3/4	1	1 1/4	1 1/2	2	
Each.....	\$6.50	\$8.00	\$9.50	\$11.00	\$14.00	
Size, inches.....	2 1/2	3	3 1/2	4		
Each.....	\$19.00	\$25.00	\$30.00	\$35.00		
Size, inches..	4 1/2	5	6	8	10	12
Each.....	\$40.00	\$45.00	\$55.00	\$75.00	\$90.00	\$130.00



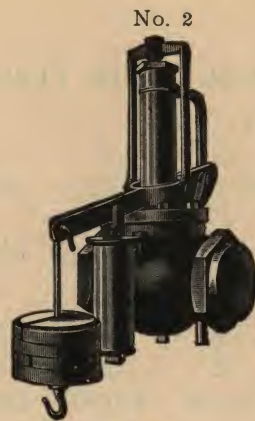
3145 N



3146 N



3147 N



3148 N



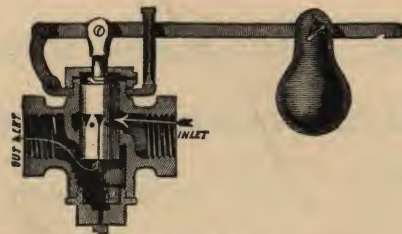
3149 N

DAVIS PRESSURE REGULATORS, PLATE 3147 N AND PLATE 3148 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
No. 1, screwed or flanged, each	\$20.00	\$20.00	\$22.00	\$24.00	\$25.00	\$30.00
No. 2, screwed or flanged, each	24.00	24.00	26.00	28.00	30.00	35.00
Size, inches	2 1/2	3	3 1/2	4	4 1/2	5
No. 1, screwed or flanged, each	\$35.00	\$40.00	\$50.00	\$60.00	\$70.00	\$75.00
No. 2, screwed or flanged, each	40.00	46.00	56.00	68.00	80.00	85.00
Size, inches	6	7	8	10	12	14
No. 1, screwed or flanged, each	\$100.00	\$135.00	\$175.00	\$275.00	\$400.00	\$500.00
No. 2, screwed or flanged, each	111.00	146.00	187.00	288.00	414.00	516.00

DAVIS PRESSURE REGULATOR No. 3, PLATE 3149 N

Size, inches	1 1/2 x 3	2 x 3	2 x 4	2 1/2 x 5	3 x 6	3 1/2 x 7
Inlet screwed and outlet flanged, or all flanged, each	\$40.00	\$45.00	\$50.00	\$65.00	\$85.00	\$100.00
Size, inches	4 x 6	4 x 8	5 x 8	5 x 10	6 x 8	6 x 10
Inlet screwed and outlet flanged, or all flanged, each	\$110.00	\$135.00	\$155.00	\$195.00	\$220.00	\$250.00
Size, inches	6 x 12	8 x 10	8 x 14	8 x 16	10 x 16	10 x 20
Inlet screwed and outlet flanged, or all flanged, each	\$280.00	\$325.00	\$360.00	\$400.00	\$450.00	\$500.00



3150 N

WATSON'S STEAM PRESSURE REGULATOR, PLATE 3150 N

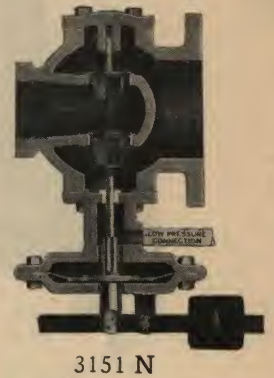
Watson's patent pressure regulator will regulate from any boiler pressure automatically, and hold the reduced pressure uniformly, down as low as two pounds if desired. It is all metal, no packing or diaphragm to blow out. Use nothing but oil in making joints to this valve; lead must not be used about it. After it is attached it lubricates only with steam. Never oil it anywhere.

Size pipe connection, inches	1	1 1/4	1 1/2	2	2 1/2	3	4	6
Brass, each	\$17.00	\$22.00	\$28.00	\$38.00	\$....	\$....	\$....	\$....
Iron body, brass lined, each	.....	.....	.....	38.00	55.00	70.00	90.00	150.00

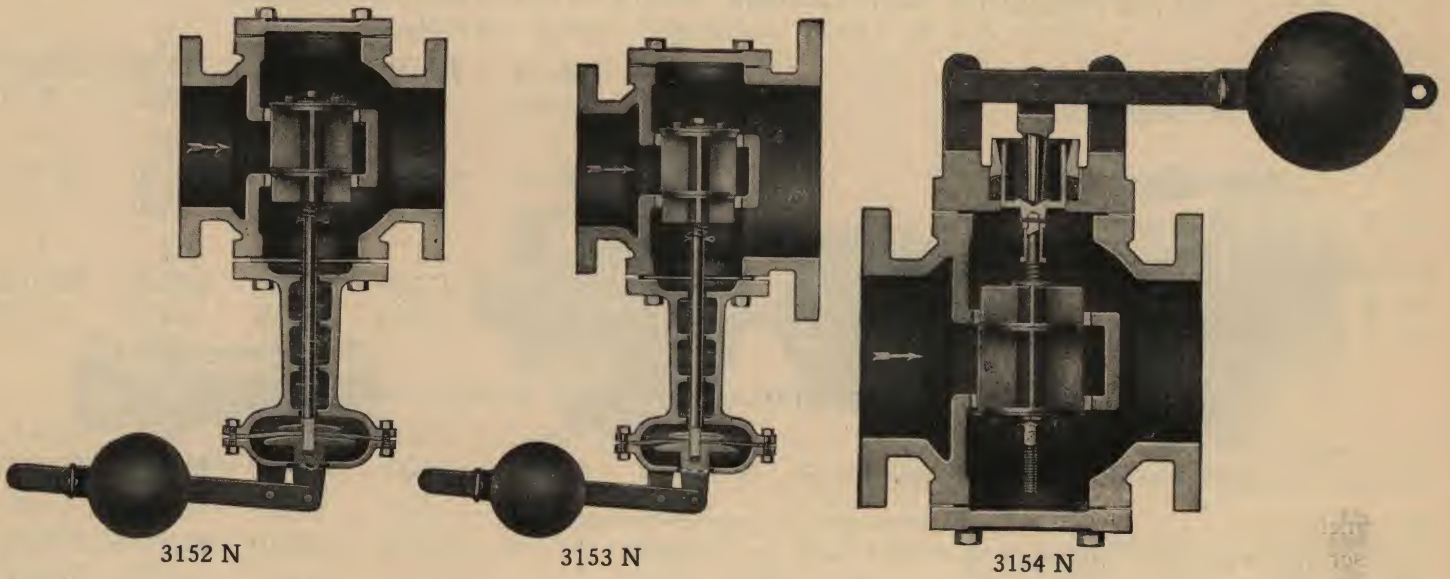


DAVIS P & W PRESSURE REGULATOR, PLATE 3151 N

		Straight-Way Valve.						
Size, inches	.....	1	1¼	1½	2	2½	3	3½
Each	.....	\$32.00	\$35.00	\$37.00	\$45.00	\$60.00	\$65.00	\$80.00
Size, inches	.....	4	5	6	7	8	9	10
Each	.....	\$100.00	\$135.00	\$175.00	\$220.00	\$285.00	\$325.00	\$360.00
		Expanded Outlet Valve						
Size, inches	.....	2x4	2½x5	3x6	4x8	5x10	6x12	8x14
Length, face to face, inches.	.....	8	9	10	12½	15	17½	20½
Each	.....	\$60.00	\$70.00	\$100.00	\$160.00	\$200.00	\$300.00	\$400.00



3151 N



3152 N

3153 N

3154 N

KIELY EUREKA LOW-PRESSURE REGULATING VALVE, PLATE 3152 N

Size, inches	.....	¾	1	1¼	1½	2	2½	3	3½
Each	.....	\$20.00	\$22.00	\$28.00	\$35.00	\$44.00	\$57.00	\$72.00	\$85.00
Size, inches	.....	4	5	6	7	8	9	10	12
Each	.....	\$100.00	\$135.00	\$180.00	\$225.00	\$275.00	\$350.00	\$350.00	\$470.00

KIELY LOW-PRESSURE REGULATING VALVE, WITH INCREASED OUTLET, PLATE 3153 N

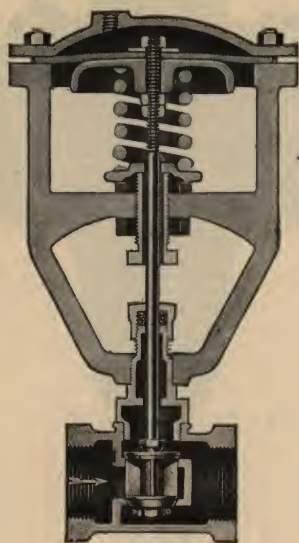
Size, inches	.....	1x2	1¼x2½	1½x3	2x4	2½x5	3x6	4x8	5x10	6x12
Each	.....	\$33.00	\$42.50	\$53.50	\$72.00	\$96.00	\$126.00	\$187.50	\$242.00	\$325.00

Size 2½ inches and larger are flanged and drilled; smaller sizes have screw ends.
In ordering state boiler pressure and the reduced pressure desired.

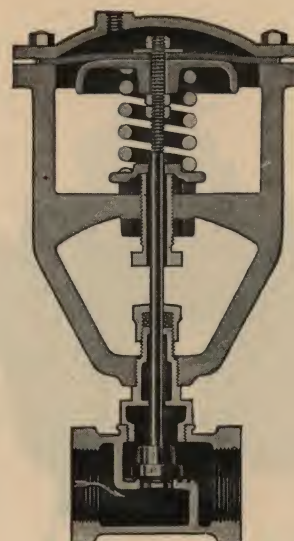
KIELY HIGH-PRESSURE REDUCING VALVE, PLATE 3154 N

For reducing steam pressure from the initial or high pressure carried down to any pressure on the reduced side above 15 pounds that may be desired.

Size, inches	.....	¾	1	1¼	1½	2	2½	3	3½
Each	.....	\$20.00	\$22.00	\$28.00	\$35.00	\$44.00	\$57.00	\$72.00	\$85.00
Size, inches	.....	4	5	6	7	8	9	10	12
Each	.....	\$100.00	\$135.00	\$180.00	\$225.00	\$275.00	\$350.00	\$350.00	\$470.00



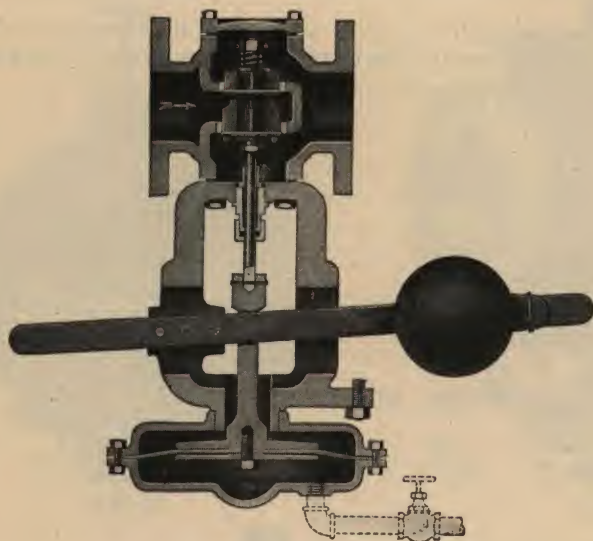
3155 N



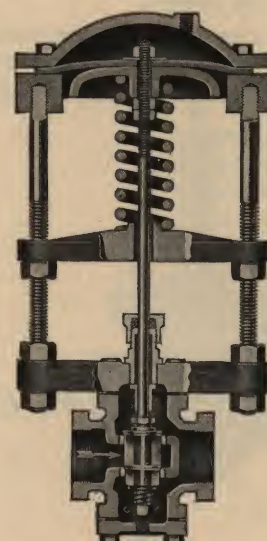
3156 N

KIELY "SPECIAL 1900" PRESSURE REGULATING VALVES, PLATE 3155 N AND PLATE 3156 N

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Single or double seat, each	\$22.00	\$22.00	\$24.00	\$26.00	\$30.00	\$35.00



3157 N



3158 N

KIELY "SPECIAL 98" VACUUM PRESSURE REGULATING VALVE, PLATE 3157 N

Size, inches	1x2	$1\frac{1}{4} \times 2\frac{1}{2}$	$1\frac{1}{2} \times 3$	2x4	$2\frac{1}{2} \times 5$	3x6	4x6
Each	\$33.00	\$42.50	\$53.50	\$72.00	\$96.00	\$126.00	\$140.00
Size, inches	4x8	5x10	6x12	8x14	8x16	1x1	$1\frac{1}{4} \times 1\frac{1}{4}$
Each	\$187.50	\$242.00	\$325.00	\$400.00	\$500.00	\$22.00	\$28.00
Size, inches	$1\frac{1}{2} \times 1\frac{1}{2}$	2x2	$2\frac{1}{2} \times 2\frac{1}{2}$	3x3	$3\frac{1}{2} \times 3\frac{1}{2}$	4x4	
Each	\$35.00	\$44.00	\$57.00	\$72.00	\$85.00	\$100.00	
Size, inches	5x5	6x6	7x7	8x8	10x10	12x12	
Each	\$135.00	\$180.00	\$225.00	\$275.00	\$350.00	\$470.00	

KIELY ROCKAWAY REGULATING VALVE, PLATE 3158 N

Size, inches	1x2	$1\frac{1}{4} \times 2\frac{1}{2}$	$1\frac{1}{2} \times 3$	2x4	$2\frac{1}{2} \times 5$	3x6	4x6
Each	\$33.00	\$42.50	\$53.50	\$72.00	\$96.00	\$126.00	\$140.00
Size, inches	4x8	5x10	6x12	8x14	8x16	1x1	$1\frac{1}{4} \times 1\frac{1}{4}$
Each	\$187.50	\$242.00	\$325.00	\$400.00	\$500.00	\$26.00	\$30.00
Size, inches	$1\frac{1}{2} \times 1\frac{1}{2}$	2x2	$2\frac{1}{2} \times 2\frac{1}{2}$	3x3	$3\frac{1}{2} \times 3\frac{1}{2}$	4x4	
Each	\$35.00	\$44.00	\$57.00	\$72.00	\$85.00	\$100.00	
Size, inches	5x5	6x6	7x7	8x8	10x10	12x12	
Each	\$135.00	\$180.00	\$225.00	\$275.00	\$350.00	\$470.00	



635 N

636 N



636 N

WATER PRESSURE REGULATOR, PLATE 636 N

This regulator can be set at any pressure desired, and it will maintain the same regardless of the highest pressure on the street main.

A pressure of from 20 to 30 pounds can be maintained in any building, notwithstanding a fire pressure of 120 pounds or more on the mains.

A relief valve is provided for expansion of hot water, where a boiler is used, so that at no time need there be more than 20 to 30 pounds, or the amount of pressure desired, in the house supply pipes. Every regulator warranted.

We will not guarantee continuous satisfactory service of these regulators unless a strainer is used.

For 1/2-inch pipe, each.....	\$ 7.50
For 3/4-inch pipe, each.....	8.50
For 1 -inch pipe, each.....	11.00
For 1 1/4-inch pipe, each.....	13.00
For 1 1/2-inch pipe, each.....	17.00
For 2 -inch pipe, each.....	22.00
For 2 1/2-inch pipe, each.....	30.00
For 3 -inch pipe, each.....	42.00
For 4 -inch pipe, each.....	60.00

WATER STRAINERS, FOR SERVICE PIPES, PLATE 635 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$2.00	\$2.25	\$4.00	\$6.75	\$11.70	\$17.00	\$22.50	\$27.00



3161 N



3162 N

BRASS WATER RELIEF VALVE, PLATE 3161 N

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2
Each	\$10.00	\$12.00	\$15.00	\$18.00	\$27.00	\$43.00

IRON BODY WATER RELIEF VALVE, PLATE 3162 N

Size, inches	2	2 1/2	3	3 1/2	4	5	6
Screwed, each	\$45.00	\$55.00	\$65.00	\$85.00	\$100.00	\$150.00	\$225.00
Flanged, each		55.00	65.00	85.00	100.00	150.00	225.00

In ordering, state pressure to be carried.



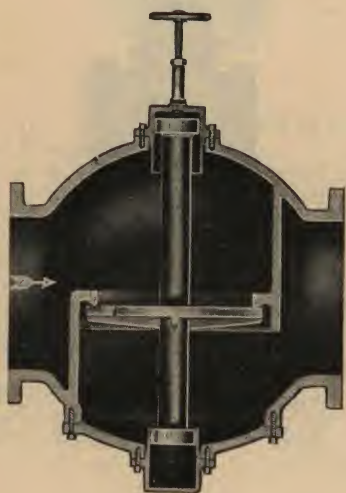
3163 N



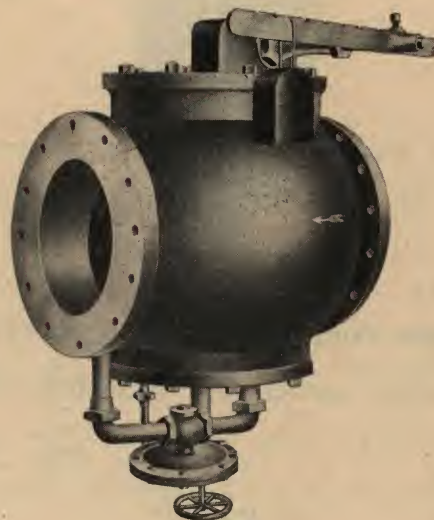
3164 N

WATER RELIEF VALVES, PLATE 3163 N AND PLATE 3164 N

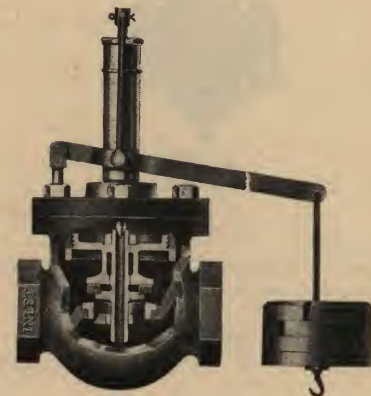
Size, inches	3/4	1	1 1/4	1 1/2	2
Brass, each	\$10.00	\$12.00	\$15.00	\$18.00	\$27.00
Iron Body, each					45.00
Size, inches	2 1/2	3	4	5	6
Brass, each	\$43.00	\$72.00	\$.....	\$.....	\$.....
Iron Body, each	55.00	65.00	100.00	150.00	225.00



3165 N



3166 N



3167 N

DAVIS AUTOMATIC EXHAUST RELIEF VALVE, PLATE 3165 N

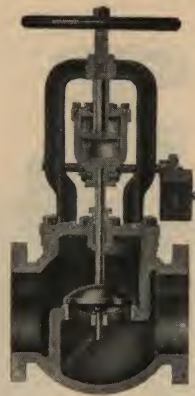
Size, inches	6	7	8	10	12
Each	\$100.00	\$150.00	\$170.00	\$270.00	\$335.00
Size, inches	14	16	18	20	
Each	\$415.00	\$500.00	\$584.00	\$670.00	

DAVIS AUTOMATIC COMBINATION BACK PRESSURE AND RELIEF VALVE, PLATE 3166 N

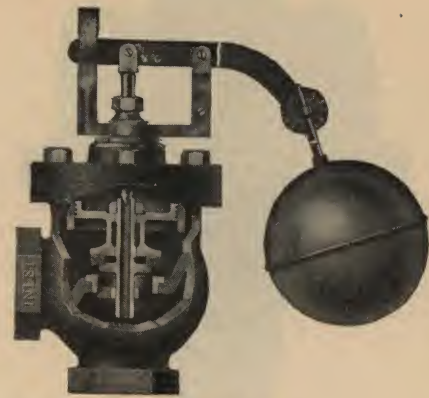
Size, inches	6	7	8	10	12
Each	\$100.00	\$150.00	\$170.00	\$270.00	\$335.00
Size, inches	14	16	18	20	
Each	\$415.00	\$500.00	\$584.00	\$670.00	

DAVIS COUNTER-WEIGHTED WATER RELIEF VALVE, PLATE 3167 N

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$20.00	\$22.00	\$24.00	\$25.00	\$30.00	\$35.00	\$45.00
Size, inches	4	5	6	7	8	10	12
Each	\$65.00	\$80.00	\$100.00	\$150.00	\$200.00	\$250.00	\$350.00



3168 N



3169 N

DAVIS CLASS C AUTOMATIC STOP AND CHECK VALVE, PLATE 3168 N

Size, inches.....	2	2½	3	3½	4	4½	5	6	8	10
Globe or angle pattern, each.....	\$45.00	\$48.00	\$50.00	\$55.00	\$60.00	\$65.00	\$70.00	\$90.00	\$140.00	\$190.00

DAVIS IMPROVED FLOAT VALVE, PLATE 3169 N

Size, inches.....	¾	1	1¼	1½	2	2½	3
Angle or globe pattern, each.....	\$15.00	\$16.00	\$17.00	\$20.00	\$25.00	\$35.00	\$45.00
Size, inches.....	4	5	6	7	8	10	12
Angle or globe pattern, each.....	\$65.00	\$80.00	\$100.00	\$150.00	\$200.00	\$250.00	\$350.00



3170 N



3171 N



3172 N

BRASS STEAM COCKS, PLATE 3170 N TO PLATE 3172 N

Size, inches.....	¼	⅜	½	¾	1	1¼
Square or flat head, each.....	\$0.85	\$ 1.00	\$ 1.25	\$ 1.70	\$ 2.35	\$ 3.70
Three-way, each.....	.....	.....	2.50	3.00	3.75	5.75
Size, inches.....	1½	2	2½	3	3½	4
Square or flat head, each.....	\$4.85	\$ 7.30	\$14.50	\$22.50	\$38.50	\$50.00
Three-way, each.....	7.15	11.00	18.75	20.00	50.00	70.00

All Iron Cocks

Size, inches.....	1	1¼	1½	2	2½
All iron cocks, each.....	\$ 1.30	\$ 1.60	\$ 1.95	\$ 2.70	\$ 4.40
Iron cocks with brass plug, each.....	1.90	2.65	3.75	5.25	8.75
All iron three-way cocks, each.....	1.80	2.05	2.65	3.65	5.35
Iron three-way cocks with brass plug, each.....	2.40	3.10	4.50	6.25	9.75
Size, inches.....	3	3½	4	5	6
All iron cocks, each.....	\$ 6.75	\$12.00	\$15.50	\$32.00	\$ 45.00
Iron cocks with brass plug, each.....	13.00	27.50	36.50	67.00	94.00
All iron three-way cocks, each.....	7.50	14.00	19.00	36.50	52.00
Iron three-way cocks with brass plug, each.....	13.75	30.00	40.00	71.50	100.00



3173 N



3174 N



3175 N

GAS SERVICE COCKS, PLATE 3173 N TO PLATE 3175 N

Size, inches.....	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Flat or tee head, each.....	\$0.90	\$1.00	\$1.10	\$1.30	\$2.10	\$3.25	\$4.60	\$8.00	\$17.50	\$27.00
Lock, each.....	.....	.....	1.30	1.60	2.10	3.50	5.00	7.00	.....	.....



3176 N



3177 N



3178 N

STANDARD GAS STOVE COCK, PLATE 3176 N

Size, inches.....	1/4	3/8	1/2	3/4	1
Each	\$1.15	\$1.25	\$1.35	\$2.15	\$3.25

SQUARE HEAD COCK WRENCHES, PLATE 3177 N

Number	1	2	3	3 1/2	4	4 1/2	5	6	6 1/4	6 1/2
Size of square opening.....	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8
Each	\$0.07	0.07	\$0.07	\$0.08	\$0.09	\$0.12	\$0.14	\$0.19	\$0.21	\$0.23

FLAT HEAD COCK WRENCHES, PLATE 3178 N

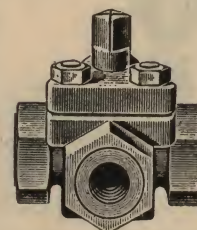
Number	20	21	22	23	24	25	26	27	28
Size of opening.....	3/8x3/4	3/8x1	1/2x1	1/2x1 1/4	1/2x1 1/2	5/8x1 1/2	5/8x1 11/16	3/4x1 1/4	3/4x2 1/8
Each	\$0.07	\$0.09	\$0.14	\$0.25	\$0.44	\$0.56	\$0.80	\$1.00	\$1.50



3179 N



3180 N



3181 N

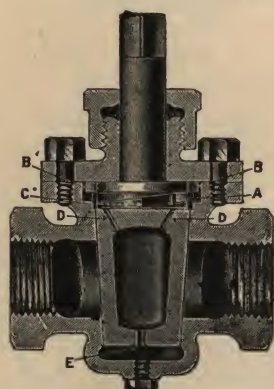
ASBESTOS PACKED IRON COCKS, PLATE 3179 N AND PLATE 3180 N

Size, inches.....	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
For 125 pounds pressure, screwed, each..	\$1.30	\$1.30	\$1.45	\$1.60	\$2.10	\$2.50	\$3.50	\$4.75	\$7.00	\$.....	\$.....	\$.....	\$.....
For 100 pounds pressure, screwed, each..	.....	.....	.....	.....	.....	.....	.....	.....	.....	12.00	18.00	27.00	30.00
For 200 pounds pressure, screwed, each..	.....	2.00	2.00	2.00	2.50	3.00	4.25	5.75	8.50	.....	.....	.....	.....
For 150 pounds pressure, screwed, each..	.....	.....	.....	.....	.....	.....	.....	.....	.....	14.50	21.50	32.50	36.00
For 125 pounds pressure, flanged, each..	.....	.....	.....	.....	.....	2.50	3.50	4.75	7.00	.....	.....	.....	.....
For 100 pounds pressure, flanged, each..	.....	.....	.....	.....	.....	.....	.....	.....	.....	12.00	18.00	27.00	30.00
For 200 pounds pressure, flanged, each..	.....	.....	.....	.....	.....	3.00	4.25	5.75	8.50	.....	.....	.....	.....
For 150 pounds pressure, flanged, each..	.....	.....	.....	.....	.....	.....	.....	.....	.....	14.50	21.50	32.50	36.00

ASBESTOS PACKED IRON THREE-WAY COCK, PLATE 3181 N

Size, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
For 150 pounds pressure, each.....	\$2.85	\$4.75	\$7.00	\$12.00	\$18.00	\$.....	\$.....	\$.....
For 100 pounds pressure, each.....	.....	.....	.....	.....	.....	30.00	45.00	60.00

When ordering, state if wanted with 2 or 3 openings in plug.



3182 N



3183 N



3184 N

HOMESTEAD STRAIGHT-WAY VALVE, PLATE 3182 N

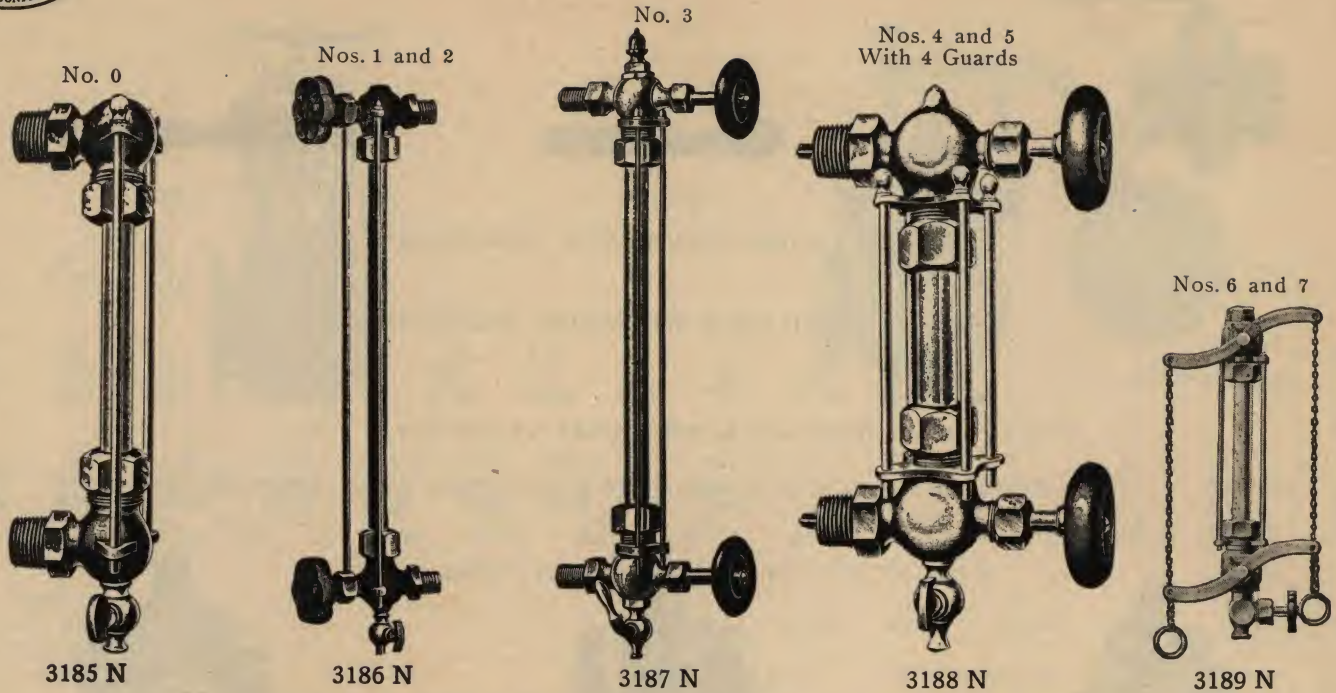
Size, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
For 150 pounds pressure, each.....	\$4.50	\$5.37	\$7.17	\$9.60	\$13.40	\$23.30	\$35.00	\$60.40

HOMESTEAD ANGLE VALVE, PLATE 3183 N

Size, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
For 150 pounds pressure, each.....	\$7.20	\$8.70	\$13.30	\$15.00	\$16.60	\$29.20	\$40.00

HOMESTEAD THREE-WAY VALVE, PLATE 3184 N

Size, inches.....	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
For 200 pounds pressure, each.....	\$19.86	\$23.33	\$26.66	\$40.00	\$55.55	\$75.55	\$137.77	\$177.77	\$244.44



BRASS WATER GAUGES, PLATE 3185 N TO PLATE 3189 N

No. 0—Rough, for expansion tanks, for $\frac{5}{8}$ x12 glass and $\frac{1}{2}$ -inch iron pipe, each.....	\$2.60
No. 1—Rough, with iron wheels, for $\frac{5}{8}$ x10 glass and $\frac{3}{8}$ -inch iron pipe, each.....	2.75
No. 2—Rough, with iron wheels, for $\frac{5}{8}$ x12 glass and $\frac{1}{2}$ -inch iron pipe, each.....	3.00
No. 3—Finished, with wood wheels, for $\frac{5}{8}$ x12 glass and $\frac{1}{2}$ -inch iron pipe, each.....	4.25
No. 4—Finished, with wood wheels, with four guards, for $\frac{5}{8}$ x12 glass and $\frac{1}{2}$ -inch iron pipe, each.....	5.00
No. 5—Finished, with wood wheels, with four guards, for $\frac{3}{4}$ x16 glass and $\frac{3}{4}$ -inch iron pipe, each.....	6.25
No. 6—Finished, with chain and lever handles, for $\frac{5}{8}$ x12 glass and $\frac{1}{2}$ -inch iron pipe, each.....	5.00
No. 7—Finished, with chain and lever handles, for $\frac{3}{4}$ x16 glass and $\frac{3}{4}$ -inch iron pipe, each.....	6.50



3190 N

WATER GAUGE GLASSES, PLATE 3190 N

Length, inches	10	11	12	13	14	15	16	17
$\frac{1}{2}$ -inch, per dozen.....	\$2.76	\$3.04	\$3.32	\$3.59	\$3.87	\$4.14	\$4.42	\$4.70
$\frac{5}{8}$ -inch, per dozen.....	3.33	3.67	4.00	4.33	4.67	5.00	5.33	5.67
$\frac{3}{4}$ -inch per dozen.....	4.37	4.81	5.24	5.68	6.12	6.55	6.99	7.43
Length, inches	18	19	20	22	24	30	36	48
$\frac{1}{2}$ -inch, per dozen.....	\$4.97	\$5.25	\$5.52	\$6.08	\$ 6.63	\$ 8.83	\$10.60	\$14.13
$\frac{5}{8}$ -inch, per dozen.....	6.00	6.33	6.66	7.33	8.00	10.66	12.79	17.05
$\frac{3}{4}$ -inch, per dozen.....	7.86	8.30	8.73	9.68	10.48	13.97	16.77	22.35



3191 N



3192 N

GAUGE GLASS CUTTERS, PLATE 3191 N AND PLATE 3192 N

Plate 3191 N, Chesterton, each	\$2.00
Plate 3192 N, Worcester, each	1.00

RUBBER GAUGE GLASS WASHERS, PLATE 3193 N AND PLATE 3194 N

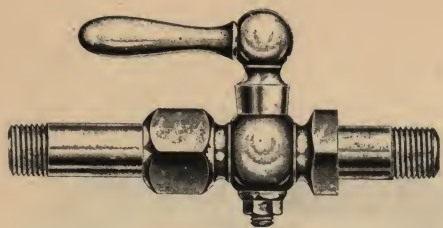


3193 N

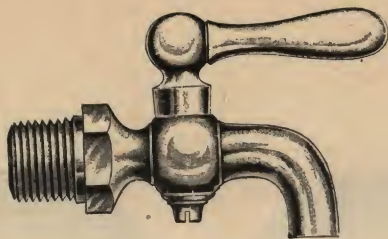
Flat, per dozen.....	\$0.15
Round, per dozen.....	.25
Gilbert, per box.....	.60



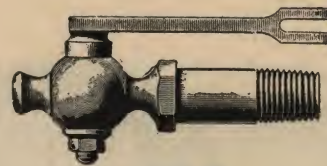
3194 N



3195 N



3196 N



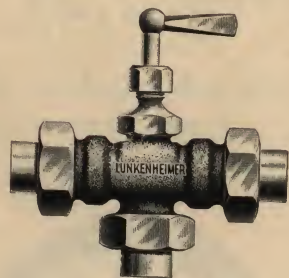
3197 N

CYLINDER COCKS, PLATE 3195 N

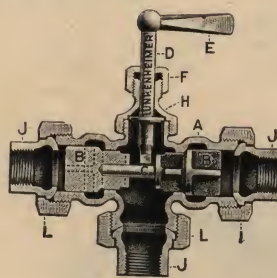
Size, inches	1/8	1/4	3/8	1/2	3/4
Lever handle, both ends male, with union, each	\$1.50	\$1.75	\$2.00	\$2.50	\$2.75
Tee handle, both ends male, with union, each	1.35	1.60	1.85	2.35	2.60

CYLINDER COCKS, PLATE 3196 N AND PLATE 3197 N

Size, inches	1/8	1/4	3/8	1/2	3/4
Lever handle, each	\$0.85	\$1.15	\$1.30	\$1.85	\$2.60
Tee handle, each	.70	1.00	1.15	1.60	2.35
Traction, each	1.15	1.30	1.40	1.85	2.35



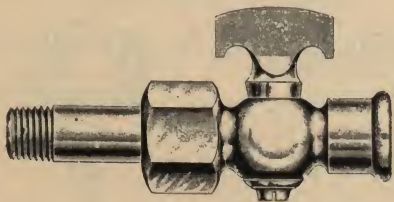
3198 N



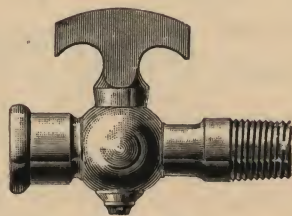
3199 N

LUNKENHEIMER AUTOMATIC CYLINDER COCKS, PLATE 3198 N AND PLATE 3199 N

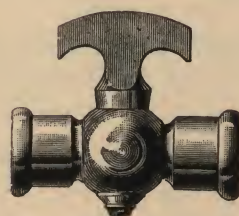
Size, inches	1/8	1/4	3/8	1/2
Adapted to cylinders, diameter, inches	up to 6	6 to 10	10 to 14	14 to 20
Brass, each	\$4.00	\$7.20	\$9.00	\$12.00
Size, inches	3/4	1	1 1/4	1 1/2
Adapted to cylinders, diameter, inches	20 to 30	30 & up		
Brass, each	\$18.00	\$28.00	\$40.00	\$56.00



3200 N



3201 N



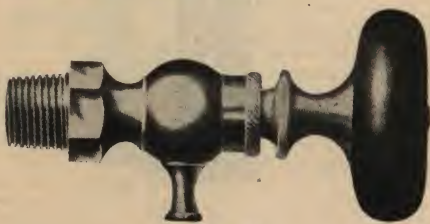
3202 N



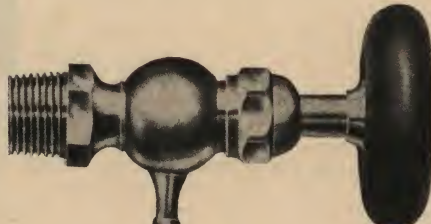
3203 N

STEAM GAUGE COCKS, PLATE 3200 N TO PLATE 3203 N

Tee handle, with union, male and female, each	\$1.50
Lever handle, with union, male and female, each	1.65
Tee handle, male and female, each	.75
Tee handle, female ends, each	.75
Ball gauge cock, each	1.00



3204 N



3205 N



3206 N

COMPRESSION GAUGE COCKS, PLATE 3204 N AND PLATE 3205 N

Size, inches	3/8	1/2	3/4
Without stuffing box, each	\$0.95	\$1.00	\$1.25
With stuffing box, each	1.20	1.30	1.45

STEAM GAUGE SYPHON, PLATE 3206 N

Each	\$0.50
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3207 N

STANDARD ALTITUDE GAUGE, PLATE 3207 N
Diameter dial 5 inches, each.....\$12.00



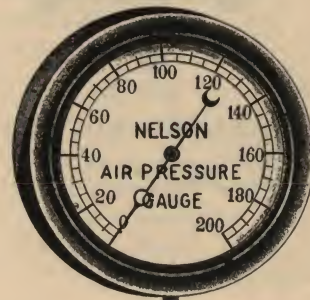
3208 N

OUNCE GRADUATION RETARD GAUGE,
PLATE 3208 N
(Compound.)
Diameter dial, 4½ inches, each.....\$12.00



3210 N

EQUALIZED ALTITUDE GAUGE, PLATE 3210 N
Diameter dial 6¾ inches, each.....\$20.00



3211 N

XOXCO AIR PRESSURE GAUGE, PLATE 3211 N
Diameter dial 5 inches, each.....\$5.00



3212 N

OUNCE GRADUATION RETARD GAUGE,
PLATE 3212 N
(Low Pressure.)
Diameter dial, 4½ inches, each.....\$8.00



3213 N



3214 N

THERMOMETERS, PLATE 3213 N AND
PLATE 3214 N
Plate 3213 N, straight, for hot water, each.....\$5.00
Plate 3214 N, angle, for hot water, each..... 6.00



200-lb. pressure



3215 N

30-lb. pressure



3215 1/2

Compound



3216 N

Combination



3216 1/2 N

STEAM GAUGES, PLATE 3215 N AND PLATE 3215 1/2 N

Diameter of dial, inches.....	3	3 1/2	4 1/2	5 1/2	6	6 3/4	8 1/2	10	12
Brass case, each.....	\$8.00	\$9.00	\$10.00	\$12.00	\$16.00	\$20.00	\$30.00	\$40.00	\$75.00
Iron case, japanned, each.....	6.00	7.00	8.00	10.00	13.00	16.00	22.00	32.00	50.00
Special 5-inch gauge, high or low pressure, iron case only.....	\$6.00								

COMPOUND PRESSURE AND VACUUM GAUGE, PLATE 3216 N

These gauges are graduated for pressure in pounds per square inch, and for vacuum in inches of mercury column, or pounds per square inch, as may be desired; fifteen pounds of pressure being equal to thirty inches of vacuum. If a pressure exceeding fifteen pounds is required it should be stated in ordering.

Diameter of dial, inches.....	5 1/2	6	6 3/4	8 1/2	10	12
Brass case, each.....	\$16.00	\$20.00	\$25.00	\$40.00	\$50.00	\$80.00
Iron case, japanned, each.....	14.00	16.00	20.00	30.00	40.00	60.00

STANDARD COMBINATION WATER WORKS GAUGE, PLATE 3216 1/2 N

Diameter of dial, inches.....	5 1/2	6	6 3/4	8 1/2	10	12
Brass case, each.....	\$16.00	\$20.00	\$25.00	\$40.00	\$50.00	\$80.00
Iron case, japanned, each.....	14.00	16.00	20.00	30.00	40.00	60.00

In ordering, state maximum pressure in pounds or feet.

HYDRAULIC GAUGE, PLATE 3217 N

Diameter of dial, inches.....	6	6 3/4	8 1/2	10	12
Brass case, each.....	\$40.00	\$60.00	\$80.00	\$100.00	\$125.00
Iron case, with brass rim, each.....	35.00	50.00	70.00	90.00	110.00

\$5.00 extra for maximum hand. No extra charge for marking "tons on ram" on dials.



3217 N

COMBINATION WATER AND STEAM GAUGE COLUMN, PLATE 3218 N

Number	1	2	3
Steam connections, inches.....	3/4	1	1 1/4
Distance between centers of water gauge, inches.....	12	15	18
Threads, inches.....	1/2	1/2	1/2
Gauge cock threads, inches.....	1/2	1/2	3/4
Height over all, inches.....	16 1/2	18 1/2	22 1/2
Combination column, complete, each.....	\$13.00	\$15.00	\$19.00
Column body only, tapped, each.....	2.50	3.50	4.50

Each combination column, complete, includes three gauge cocks, one No. 1 water gauge, one 5-inch iron case steam gauge and syphon and drain cock.

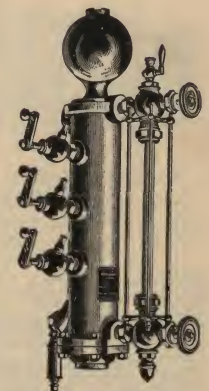
PATENT ALARM GAUGE, PLATE 3219 N

Indicating high and low water.

Number	1	2	5
Water and steam connections, inches.....	1	1	1 1/4
Variation between alarms, inches.....	6	..	8
Distance between centers of water gauge, inches.....	14	14	18
Glass, inches.....	5/8x12	5/8x12	3/4x16
Size of water gauge and gauge cock, inches.....	1/2	1/2	3/4
Price, without water gauge and gauge cocks, each.....	\$28.00	\$25.00	\$30.00
With polished brass water gauge and gauge cocks, each.....	35.00	32.00	40.00



3218 N



3219 N

Number	6	7
Water and steam connections, inches.....	1 1/4	1 1/2
Variation between alarms, inches.....	..	12
Distance between centers of water gauge, inches.....	16	21
Glass, inches.....	3/4x14	3/4x19
Size of water gauge and gauge cock, inches.....	3/4	3/4
Price, without water gauge and gauge cocks, each.....	\$28.00	\$35.00
With polished brass water gauge and gauge cocks, each.....	38.00	45.00

When not ordered otherwise, we ship the columns complete, trimmed as shown. When only parts are wanted, specify what part is wanted. Numbers 2 and 6 are for low water alarm only.



3221 N



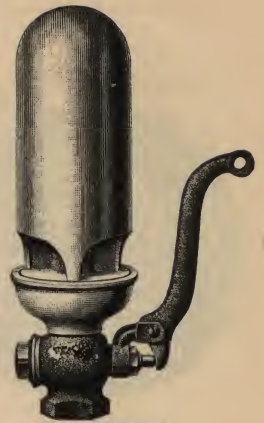
3222 N



3223 N



3224 N



3225 N

PLAIN STEAM WHISTLES, PLATE 3221 N AND PLATE 3222 N

Diameter of bell, inches.....	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8
Size of pipe, inches.....	1/4	1/4	3/8	1/2	3/4	3/4	1	1 1/4	1 1/2	1 1/2	2
Plate 3221 N, with valve, each.....	\$3.10	\$3.75	\$4.00	\$5.50	\$6.50	\$8.50	\$11.50	\$15.00	\$22.50	\$33.00	\$95.00
Plate 3222 N, without valve, each.....	2.20	2.75	3.00	4.35	5.25	7.25	9.50	12.00	19.00	24.00	70.00

STEAM WHISTLE VALVE, PLATE 3223 N

Size, inches	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each	\$2.00	\$2.50	\$3.00	\$3.50	\$5.00	\$6.00	\$9.00	\$18.00	\$27.00

SINGLE-BELL CHIME WHISTLES, PLATE 3224 N AND PLATE 3225 N

Diameter of bell, inches.....	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8
Size pipe connection, inches.....	3/8	1/2	3/4	3/4	1	1 1/4	1 1/2	1 1/2	2
Plate 3224 N, without valve, each.....	\$4.50	\$5.00	\$7.00	\$ 8.00	\$11.00	\$14.00	\$22.00	\$38.00	\$ 85.00
Plate 3225 N, with valve, each.....	6.00	7.00	9.00	11.00	15.00	18.00	28.00	42.00	100.00



3226 N



3227 N



3228 N

MOCKING BIRD STEAM WHISTLE, PLATE 3226 N

Diameter of bell, inches.....	2 1/2	3	3 1/2	4	5	6
Size of pipe connection, inches.....	3/4	3/4	1	1 1/4	1 1/2	1 1/2
All brass, with valve, each.....	\$10.50	\$14.00	\$20.00	\$28.00	\$40.00	\$56.00
All brass, without valve, each.....	9.00	12.00	17.50	25.00	37.00	50.00
Iron base, without valve, each.....		11.50	16.50	23.00	34.00	46.00

IMPROVED COMBINATION OR FIRE ALARM WHISTLE, PLATE 3227 N

Diameter of bell, inches.....	2 1/2	3 1/2	5	8
Size of pipe connection, inches.....	3/4	1	1 1/2	2
With whistle valve complete, iron base, each.....	\$.....	\$31.00	\$40.00	\$100.00
With whistle valve complete, brass base, each.....	24.00	40.00	53.00	120.00

THREE-WHISTLE CHIMES, PLATE 3228 N

No. 1—Composed of one each 1 1/2, 2 and 2 1/2-inch whistles (size pipe connection, 1 inch).....	\$ 22.00
No. 2—Composed of one each 3 1/2, 4 and 5 -inch whistles (size pipe connection, 2 inches).....	40.00
No. 3—Composed of one each 5, 6 and 8 -inch whistles (size pipe connection, 3 inches).....	109.00

Notice.—Whistle valves for above are extra, and chimes will not be sent with valve unless ordered.



3229 N



3229 1/2 N

HIGH-SPEED INDICATOR, PLATE 3229 N

Each	\$2.00
In leatherette case, each.....	3.00

BRASS GONG, PLATE 3229 1/2 N

Size, inches	5	6	8	10	12
Each	\$1.90	\$2.25	\$3.50	\$5.50	\$9.25



3230 N

STEAM TUBE CLEANERS, PLATE 3230 N

It is perfectly automatic in its working. It permits of the passage of steam through the head only when in use. After opening the connection at the boiler, a slight pressure on the handle suddenly opens the balanced valve the full size of the steam connection, giving the effect of a powerful blow, sufficient to clean an 18-foot flue perfectly.

It is made wholly of brass and carefully tested.

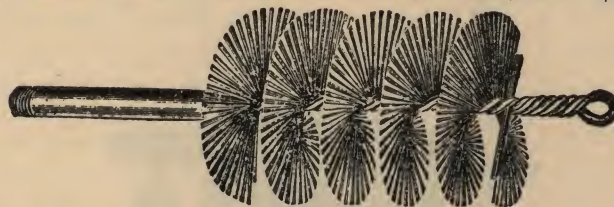
- No. 1. For 2 to 2 3/4-inch flues, inclusive..... \$10.50
- No. 2. For 3 to 4 -inch flues, inclusive..... 11.50



3231 N

ENGINEER'S FAVORITE TUBE CLEANER, PLATE 3231 N

Size, inches.....	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	5	6
Each	\$2.00	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$6.25	\$7.50



3232 N

STILLWELL'S PATENT STEEL WIRE FLUE BRUSH, PLATE 3232 N

All sizes, 1 1/4 to 6-inch, inclusive, per inch of diameter..... \$1.00



3233 N

IMPROVED EXPANSION FLUE BRUSH, PLATE 3233 N

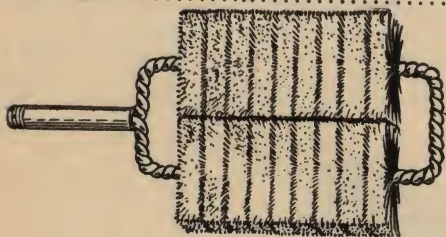
Per inch..... \$1.00



3234 N

COMBINATION FLUE BRUSH AND SCRAPER, PLATE 3234 N

Per inch..... \$1.00



3235 N

FLAT BRUSH, PLATE 3235 N

Size, in... 4 1/2 x 4 x 1 3/4 6 x 4 1/2 x 2 1/2 6 x 4 1/2 x 2 3/4
Each..... \$1.00 \$1.75 \$2.00



3236 N

OVAL BRUSH, PLATE 3236 N

Size, in. 1x3 1 1/2 x 3 2x3 2x4 2 1/2 x 4 3x4
Each .. \$0.75 \$0.85 \$0.95 \$1.05 \$1.15 \$1.25



3237 N

ROUND BRUSH, PLATE 3237 N

All sizes, from 1 to 6-inch diameter, per inch..... \$1.00



3238 N

RADIATOR BRUSH, PLATE 3238 N

Per dozen..... \$10.00



3239 N

FLAT BRUSH WITH HANDLE, PLATE 3239 N

Size, inches..... 3x2 5x3
Per dozen..... \$6.00 \$9.00

STEEL WIRE CASTING OR FOUNDRY BRUSH, PLATE 3240 N

A 4-row block is 8 inches long, 2 1/4 inches wide.
A 5-row block is 8 inches long, 2 3/4 inches wide.
A 6-row block is 8 inches long, 3 1/2 inches wide.



3240 N

	4-row	5-row	6-row
2-inch wire, per dozen.....	\$4.50	\$5.50	\$6.50
3-inch wire, per dozen.....	5.50	6.50	7.50
4-inch wire, per dozen.....	6.50	7.50	8.50
5-inch wire, per dozen.....	7.50	8.50	9.50
6-inch wire, per dozen.....	8.50	9.50	10.50



3250 N



3251 N



3252 N



3253 N

RADIATOR VALVES, PLATE 3250 N TO PLATE 3253 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Wood handle, nickel plated all over, with union, each.....	\$3.15	\$3.80	\$4.75	\$6.40	\$8.10	\$13.10
Lock shield, nickel plated all over, with union, each.....	3.15	3.80	4.75	6.40	8.10	13.10
Corner, with union, nickel plated all over, each.....		4.20	5.25	7.05	8.95	14.45



3254 N



3255 N



3256 N

HOT WATER RADIATOR VALVE AND ELBOW, PLATE 3254 N AND PLATE 3255 N

Size, inches	3/4	1	1 1/4	1 1/2	2
Rough body valves, nickel plated all over, each.....	\$2.85	\$3.65	\$5.05	\$7.10	\$10.85
Rough body elbows, nickel plated all over, each.....	2.00	2.50	3.20	4.00	7.00

QUICK-OPENING HOT WATER RADIATOR VALVE, PLATE 3256 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
With union, nickel plated all over, each.....	\$2.40	\$2.85	\$3.65	\$5.05	\$7.10	\$10.85
Without union, nickel plated all over, each.....	1.65	1.95	2.65	3.70	5.00	7.75



3257 N



3258 N

MULTI-PORT VAPOR VALVE, PLATE 3257 N

Size, inches	3/4	1 1/4
Nickel plated all over, each.....	\$4.50	\$7.00

VALVE KEY, PLATE 3258 N

Valve key, nickel plated, each.....	\$0.70
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3259 N



3260 N



3260 1/2 N



3261 N

PACKLESS RADIATOR VALVES, PLATE 3259 N TO PLATE 3261 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Plate 3259 N, angle packless valve, with union, wood wheel, lever handle or lock shield styles, each	\$3.15	\$3.80	\$4.75	\$6.40	\$8.10	\$13.10
Plate 3260 N, graduated angle packless valve, lever handle or lock shield styles, each	4.15	4.80	5.75	7.40	9.10	14.10
Plate 3261 N, corner packless valve, with union, wood wheel, lever handle or lock shield styles, each	3.45	4.20	5.25	7.05	8.95	14.45
Graduated corner packless valve, lever handle or lock shield styles, each	4.45	5.20	6.25	8.05	9.95	15.45



3262 N



3263 N



3264 N



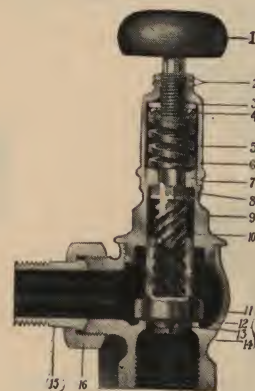
3264 1/2 N

RADIATOR VALVES, PLATE 3262 N TO PLATE 3264 1/2 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Plate 3262 N—Wood wheel brass gate valve, nickel plated all over, each	\$3.10	\$3.75	\$4.65	\$6.10	\$7.85	\$12.10
Plate 3263 N—Globe pattern valve, with union, nickel plated all over, each	3.80	4.75	6.40	8.10	13.10	
Plates 3264 N and 3264 1/2 N—Straight-way and lock shield hot water valve, with union, nickel plated all over, each	2.85	3.65	5.05	7.10	10.85	



3265 N



3266 N

UNIQUE RADIATOR VALVE, PLATE 3265 N

Size, inches	1/2	3/4	1	1 1/4
Nickel plated all over, each	\$4.25	\$5.40	\$5.80	\$7.95

DOLE BALL-BEARING PACKLESS RADIATOR VALVE, PLATE 3266 N

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Angle pattern, rough body, nickel plated all over, each	\$3.90	\$3.90	\$4.70	\$6.25	\$8.15	\$13.00
Corner pattern, rough body, nickel plated all over, each	4.25	4.25	5.15	6.95	8.95	14.25



3267 N



3268 N



3269 N



3270 N



3271 N

COMPRESSION AIR VALVES, PLATE 3267 N TO PLATE 3270 N

Size, Inches	No. 1, Brass	No. 1, Nickel Plated	No. 2, Brass	No. 2, Nickel Plated	No. 3, Brass	No. 3, Nickel Plated	No. 4, Brass	No. 4, Nickel Plated
1/8	\$0.30	\$0.35	\$0.40	\$0.45	\$0.65	\$0.70	\$0.55	\$0.60
1/4	.35	.40	.50	.55	.70	.75	.60	.65

Keys for No. 4, \$0.12.

EXPANSION AIR VALVE, PLATE 3271 N

Size, inches	1/8	1/4	3/8
Nickel plated, 8 inches long, each	\$2.00	\$2.05	\$2.10
Nickel plated, 6 inches long, each	1.75	1.80	1.85



3272 N



3273 N



3274 N



3275 N



3276 N

AUTOMATIC AIR VALVES AND DRIP CUP, PLATE 3272 N TO PLATE 3276 N

Plate 3272 N, Norwall syphon air valves, each	\$1.70
Plate 3273 N, Norwall air valves, each	1.30
Plate 3274 N, Allen air valves, each	1.25
Plate 3275 N, Jenkins air valves, per dozen	7.50
Plate 3276 N, Drip cups for Jenkins air valves, per dozen	2.00



3277 N



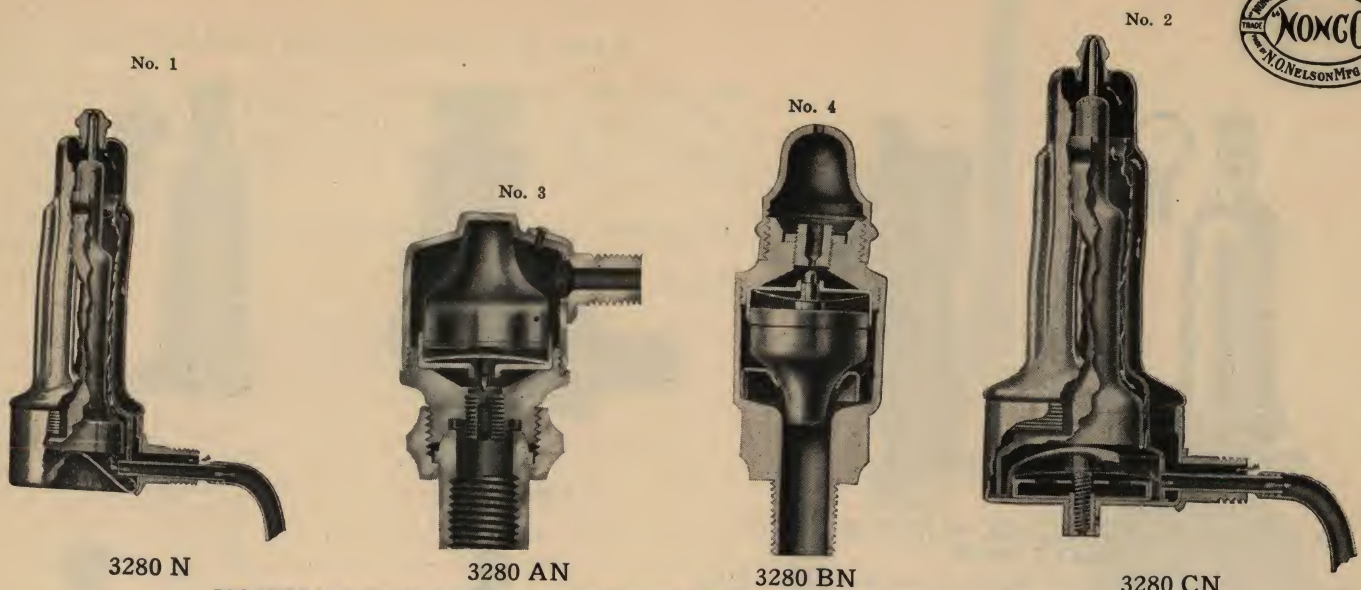
3278 N



3279 N

AUTOMATIC AIR VALVES, PLATE 3277 N TO PLATE 3279 N

Plate 3277 N—Libra air valve, each	\$1.00
Plate 3278 N—No. 10 air valve, each	1.25
Plate 3279 N—No. 6 Marsh air valve, each	1.25



No. 1 3280 N No. 3 3280 AN No. 4 3280 BN No. 2 3280 CN

HOFFMAN RADIATOR AIR VALVES, PLATE 3280 N TO PLATE 3280 CN

The expansible medium of these valves is a volatile or heat-sensitive fluid which is contained in a sealed metal chamber having a flexible bottom of phosphor-bronze. They are made entirely of metal and are absolutely non-adjustable.

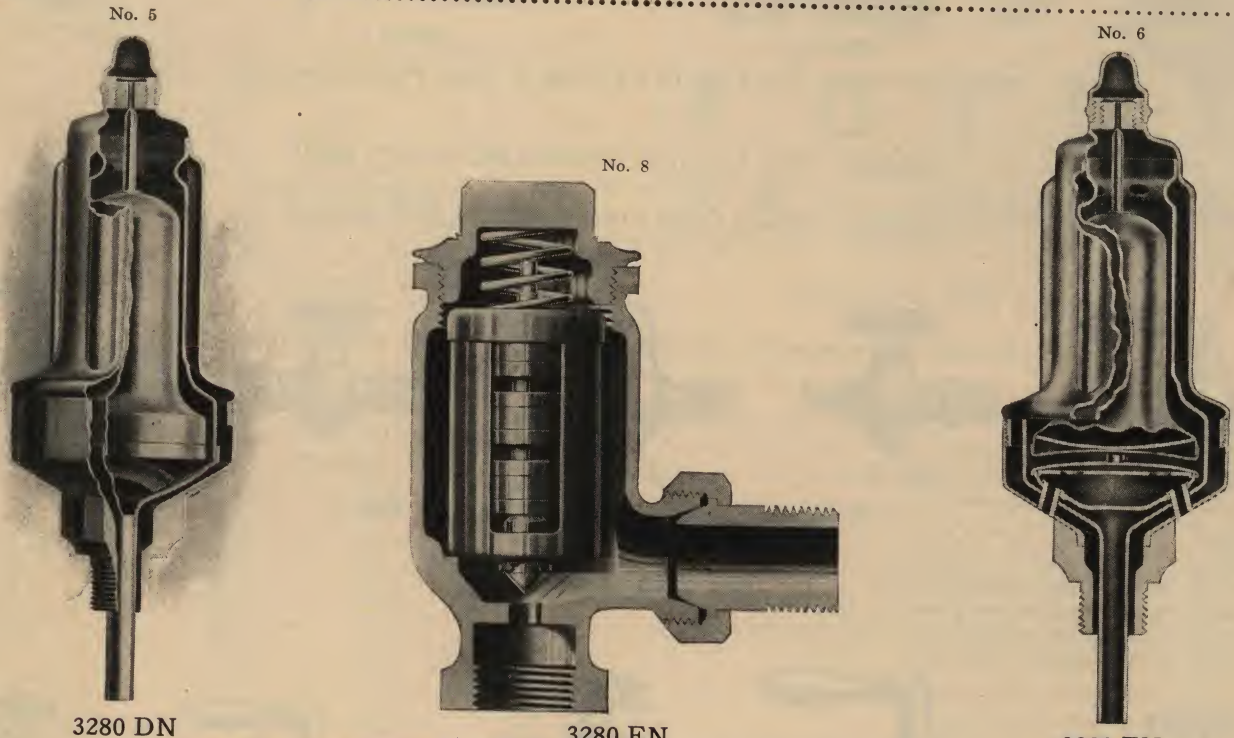
Plate 3280 N. No. 1 Hoffman Syphon Air Valve distinguishes positively between steam or water and air, closing tight against steam or water emission, but freely vents all air from the radiator.

Plate 3280 AN. No. 3 Hoffman "Air Line" Valve, designed for drip line or vacuum air line service. Steam velocity positively controlled with this valve. Male thread $\frac{1}{8}$ inch. Female thread $\frac{1}{4}$ inch.

Plate 3280 BN. No. 4 Hoffman Junior Quick Vent Air Valve, designed for quick vent service where water is not a factor. The vent port is $\frac{1}{16}$ inch in diameter; valve closes tight against steam emission, but does not close against water. Threaded $\frac{1}{4}$ inch.

Plate 3280 CN. No. 2 Hoffman Syphon Air and Vacuum Valve functions in every way the same as valve No. 1, but after the air is once out it keeps it out.

Price, each \$1.90
 Price, each \$2.50
 Price, each \$2.80
 Price, each \$4.50



No. 5 3280 DN No. 8 3280 EN No. 6 3280 FN

HOFFMAN RADIATOR AIR VALVES, PLATE 3280 DN TO PLATE 3280 FN

Plate 3280 DN. No. 5 Hoffman Quick Vent "Float" Air Valve, for quick vent service where it is desired to control or prevent the emission of either steam or water through the valve. Vent port $\frac{1}{16}$ inch. Threaded $\frac{3}{8}$ inch.

Plate 3280 EN. No. 8 Hoffman Return Line Thermostatic Valve. Made in $\frac{1}{2}$ -inch angle pattern only. A thoroughly dependable return line valve which positively distinguishes between steam, water and air, freely passing the water and air, but closing tight against steam.

Plate 3280 FN. *No. 6 Hoffman Quick Vent "Float" Air and Vacuum Valve, for quick vent service where it is desired to control or prevent the emission of either steam or water through the valve, and also to prevent the return of air to the stack or line to which the valve is connected. Vent port $\frac{1}{16}$ inch. Threaded $\frac{3}{8}$ inch.

Price, each \$6.00
 Price, each \$12.00

*Vent port can be made $\frac{3}{16}$ inch when pressure is not over three pounds.



3282 N



3283 N



3284 N



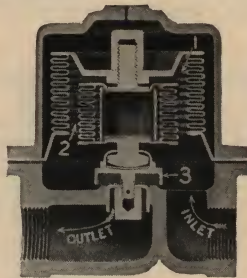
3285 N

AUTOMATIC AIR VALVES, PLATE 3282 N TO PLATE 3285 N

Plate 3282 N—No. 6 perfected duplex air valve, each	...\$1.35
Plate 3283 N—National Paul air valve, each	..... 1.25
Plate 3284 N—Marsh reflex air valve, each	..... 6.00
Plate 3285 N—Monash No. 6 4-way valve, each	..... 3.00



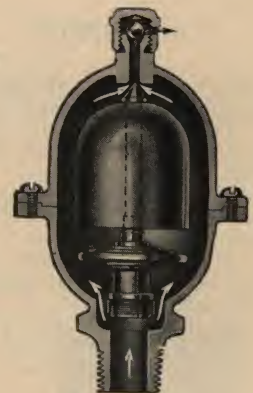
3286 N



3286 1/2 N



3287 N



3287 1/2 N

SYPHON VENT VALVES, PLATE 3286 N AND PLATE 3286 1/2 N

Plate 3286 N, each	.....	\$10.00
Plate 3286 1/2 N, each	15.00

THERMO DISK SYPHON AIR VALVE, PLATE 3287 N

Plate 3287 N—No. 1, each	\$2.00
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THERMO DISK RAPID RISE VENT, PLATE 3287 1/2 N

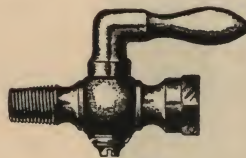
Size, inches	1/4	3/8	1/2	3/4
Plate 3287 1/2 N—No. 5, each	\$3.00	\$3.75	\$4.00	\$6.00



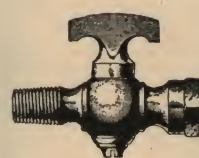
3288 N



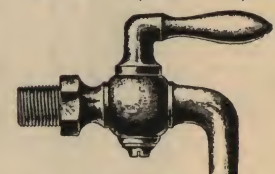
3289 N



3290 N



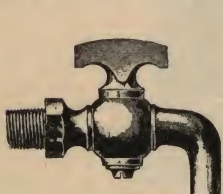
3291 N



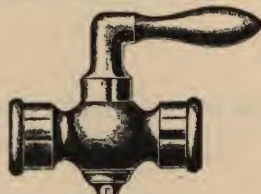
3292 N

AIR COCKS, PLATE 3288 N TO PLATE 3292 N

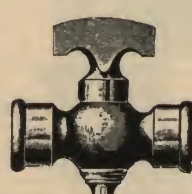
Size, inches	.....	1/8	1/4	3/8	1/2
Plate 3288 N—Lever handle, straight, each	.....	\$0.55	\$0.60	\$0.65	\$0.75
Plate 3289 N—Tee handle, straight, each	.....	.40	.45	.50	.60
Plate 3290 N—Lever handle, straight, male and female, each	.....	.90	1.00	1.10	....
Plate 3291 N—Tee handle, straight, male and female, each	.....	.75	.85	.95	....
Plate 3292 N—Lever handle, bibb nozzle, each	.....	.85	.95	1.05	1.15



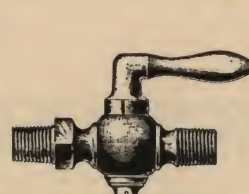
3293 N



3294 N



3295 N



3296 N



3297 N

AIR COCKS, PLATE 3293 N TO PLATE 3297 N

Size, inches	.....	1/8	1/4	3/8	1/2
Plate 3293 N—Tee handle, bibb nozzle, each	.....	\$0.70	\$0.80	\$0.90	\$1.00
Plate 3294 N—Lever handle, female ends, each	.....	.80	.85	1.00	....
Plate 3295 N—Tee handle, female ends, each	.....	.65	.70	.85	....
Plate 3296 N—Lever handle, male thread, each	.....	.70	.80	.90	1.05
Plate 3297 N—Tee handle, male thread, each	.....	.55	.65	.75	.90



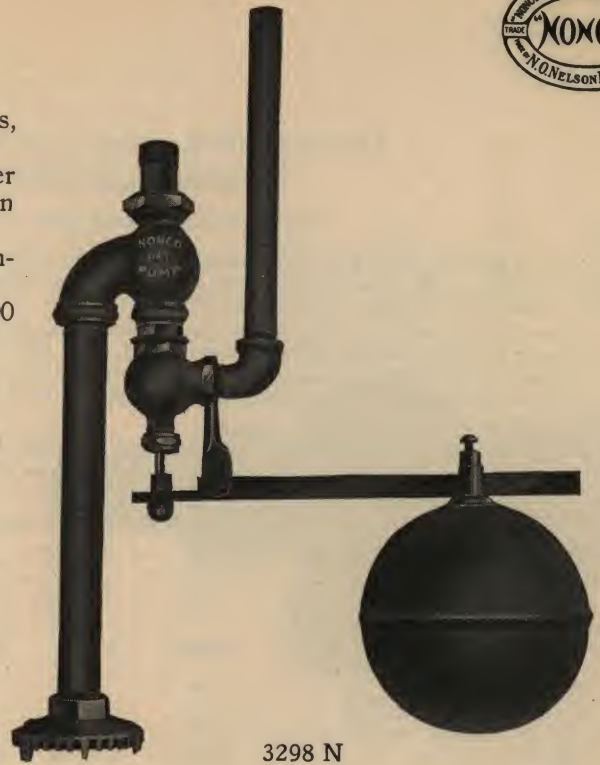
NONCO CELLAR DRAINER, PLATE 3298 N

For automatically draining cellars, fly-wheel pits, coal pits, shafts, etc. Works by water pressure. Requires no attention.

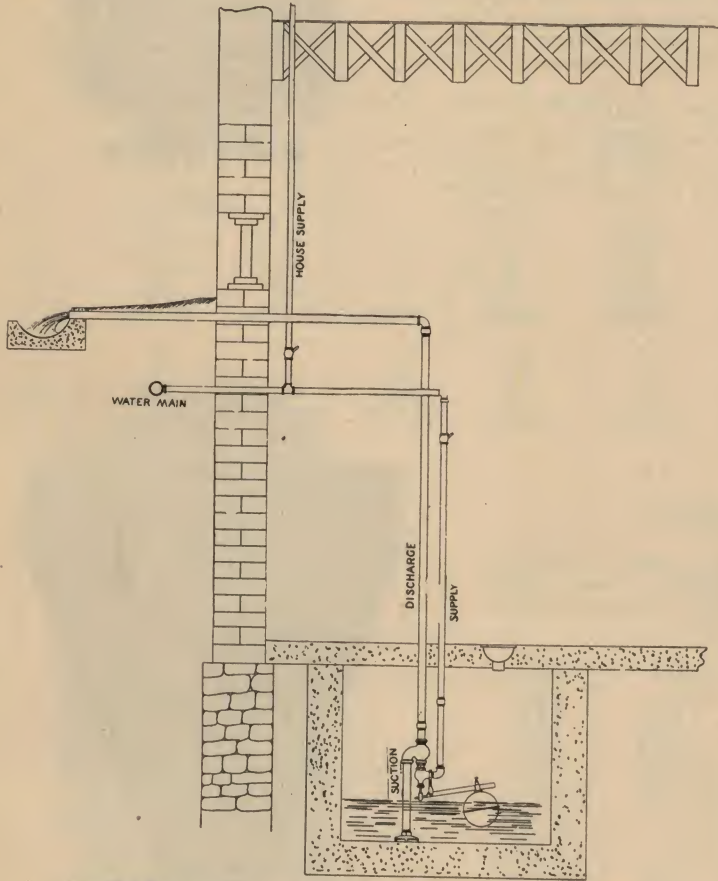
It stops and starts itself without attention when the water has risen or fallen sufficiently to move the float ball up or down a couple of inches.

One-inch suction and discharge, and 3/4-inch water connections.

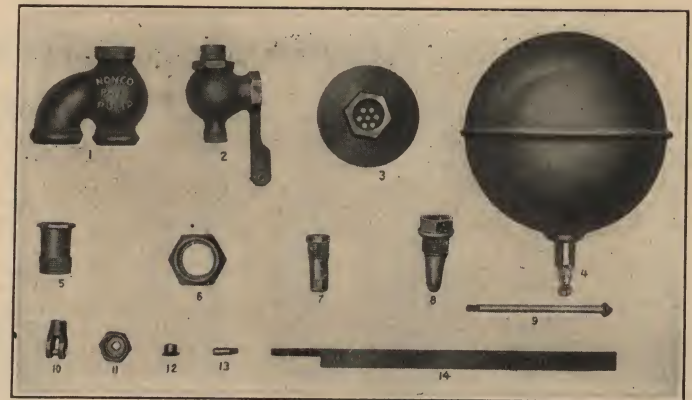
Each \$15.00



3298 N



NONCO Cellar Drainer, Illustrating Connections.



Repairs for NONCO Cellar Drainer

Capacity of NONCO Cellar Drainer at Different Pressures and Elevations.

Working Head, in Feet	At 10 lbs.		At 20 lbs.		At 30 lbs.		At 40 lbs.		At 55 lbs.	
	Will Elevate	Will Elevate	Will Elevate	Will Elevate	Will Elevate	Will Elevate	Will Elevate	Will Elevate	Will Elevate	Will Elevate
4	175	250	300	333	.....	.....	.....	.....	.....	.....
4	224	290	336	360	.....	.....	.....	.....	.....	.....
6	100	187	262	300	.....	.....	.....	.....	.....	.....
6	244	300	367	399	.....	.....	.....	.....	.....	.....
8	165	240	275	.....	.....	.....	.....	.....	.....
8	316	384	407	.....	.....	.....	.....	.....	.....
10	125	187	230	.....	.....	.....	.....	.....	.....
10	315	345	377	.....	.....	.....	.....	.....	.....
12	100	157	215	.....	.....	.....	.....	.....	.....
12	325	359	412	.....	.....	.....	.....	.....	.....
14	115	167	.....	.....	.....	.....	.....	.....
14	358	375	.....	.....	.....	.....	.....	.....
16	125	250	.....	.....	.....	.....	.....
16	385	480	.....	.....	.....	.....	.....
18	230	.....	.....	.....	.....	.....
18	496	.....	.....	.....	.....	.....
20	187	.....	.....	.....	.....	.....
20	465	.....	.....	.....	.....	.....
25	187	.....	.....	.....	.....	.....
25	517	.....	.....	.....	.....	.....
30	150	.....	.....	.....	.....	.....
30	534	.....	.....	.....	.....	.....



EXHAUST PIPE HEAD, PLATE 3300 N

Neverust—Copper Shell

Everlast—Galvanized Iron Shell

The Neverust and Everlast exhaust heads are made with base, baffle, drip and about one-third of the shell of one solid iron casting, eliminating needless joints, rivets and subsequent leaks and insuring utmost durability.

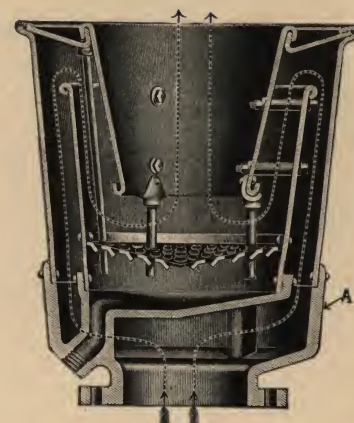
The shell is made of copper or galvanized iron, riveted to the base, well above the expansion line of the steam and escaping the shock. The steam takes the course indicated by the dotted lines and the water and oil are thrown by inertia into the water chamber, the perforated screen plate preventing the outgoing current from lifting the contents of water chamber.

The heads are self-cleaning, rain and snow flushing the water chamber.

The areas are liberal throughout, there is no noise or back pressure and the efficiency of the head is guaranteed.

In ordering please state whether the Neverust (copper shell) or the Everlast (galvanized iron shell) is wanted.

Size, inches.....	1-1½	2-2½	3	3½	4	4½	5	6	7
Size of drip, inches.....	¾	¾	1	1	1	1	1¼	1¼	1¼
Diameter of flanges, inches.....	..	..	7½	8½	9	9¼	10	11	12½
Price, each.....	\$20.00	\$25.00	\$30.00	\$30.00	\$40.00	\$40.00	\$50.00	\$60.00	\$75.00
Size, inches.....	8	9	10	12	14	15	16	18	20
Size of drip, inches.....	1½	1½	2	2	2½	3	3	3½	3½
Diameter of flanges, inches.....	13½	15	16	19	21	22¼	23½	25	27½
Price, each.....	\$90.00	\$105.00	\$125.00	\$150.00	\$200.00	\$235.00	\$250.00	\$300.00	\$350.00



3300 N

ACME EXHAUST PIPE HEAD, PLATE 3301 N

This is the oldest and best known type of exhaust head in the market; condensation can be carried to nearest downspout; brass handhole gives access to head should drip become clogged; brass expansion ring furnished with each head, so as to connect drip as an expansion joint, not rigid.

Pipe Size, Inches	Price	Drip Outlet to Head, Inches	1st Section of Drip Reduced to Inches	Pipe Size, Inches	Price	Drip Outlet to Head, Inches	1st Section of Drip Reduced to Inches
1 or 1½	\$20.00	1¼	¾	10	\$125.00	2½	1½ or 2
2 or 2½	25.00	1¼	¾ or 1	11 or 12	150.00	3	1½ or 2
3 or 3½	30.00	1½	¾ or 1	13	175.00	3	2 or 2½
4 or 4½	40.00	1½	1	14	200.00	3	2 or 2½
5	50.00	2	1 or 1¼	15	235.00	3½	2½ or 3
6	60.00	2	1 or 1¼	16	250.00	3½	2½ or 3
7	75.00	2	1 or 1¼	17	270.00	4	3 or 3½
8	90.00	2½	1¼ or 1½	18	300.00	4	3 or 3½
9	105.00	2½	1¼ or 1½				

Prices 20 to 48-inch on application.

4½-inch pipe connections and smaller are threaded. Larger sizes flanged. Made of heavy galvanized iron.



3301 N

KNOXCO JET PUMP, PLATE 3302 N

Number	2	3	4	5	6
Suction and discharge, inches.....	¾	1	1¼	1½	2
Steam pipe, inches.....	¾	½	¾	¾	¾
Capacity, gallons, 60 pounds pressure.....	8 to 10	12 to 13	15 to 20	20 to 30	30 to 40
Brass, each	\$11.00	\$14.00	\$18.00	\$22.00	\$25.00
Iron, each .....	.....	11.00	14.00	18.00	22.00
Number	7	8	9	10	11
Suction and discharge, inches.....	2½	3	4	5	6
Steam pipe, inches.....	1	1¼	1½	2	2
Capacity, gallons, 60 pounds pressure.....	40 to 50	60 to 70	80 to 90	100 to 110	120 to 150
Iron, each	\$28.00	\$32.00	\$52.00	\$85.00	\$110.00



3302 N



3303 N

BLAKESLEE JET PUMP, PLATE 3303 N

Size of pump, inches.....	¾	1	1¼	1½	2	2½	3
Suction pipe, inches.....	¾	1	1¼	1½	2	2½	3
Discharge pipe, inches.....	½	¾	1	1¼	1½	2	2½
Steam pipe, inches.....	¾	½	¾	¾	¾	1	1
Steam opening, inches.....	¾	¾	¾	¾	¾	¾	¾
Capacity per minute, gallons.....	8	15	20	30	40	50	60
Each	\$8.00	\$10.00	\$12.00	\$14.00	\$16.00	\$20.00	\$24.00



WATSON STEAM SYPHON, PLATE 3304 N

Number	1	2	3	4	5	6	7
Suction and discharge, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Gallons per hour.....	250	500	1000	1600	2400	3600	6000
Will go inside tubing, inches.....	2	2 1/2	3	4	5	5 1/2	7
Price, each	\$7.00	\$8.50	\$10.00	\$15.00	\$18.00	\$24.00	\$30.00

3304 N

CHICAGO EJECTOR, PLATE 3305 N

No.	Steam	Iron Pipe Connection Suction	Delivery	Capacity, Gallons Per Hour	Price
1	3/8-inch	3/4-inch	1/2-inch	480	\$ 8.00
2	3/8-inch	1 -inch	3/4-inch	650	10.00
3	1/2-inch	1 1/4-inch	1 -inch	1000	15.00
4	3/4-inch	1 1/2-inch	1 1/4-inch	1400	20.00
5	1 -inch	2 -inch	1 1/2-inch	2400	25.00
6	1 1/4-inch	2 1/2-inch	2 -inch	4000	35.00
8	1 1/2-inch	3 -inch	2 1/2-inch	6500	60.00



3305 N



3306 N

CHICAGO AUTOMATIC INJECTOR, PLATE 3306 N

Size	Pipe Connections	Capacity Per Hour, Maximum	H. P. Based on Ordinary Tubular Boiler	Price
00	3/8-inch	80	4 to 11	\$ 16.00
0	1/2-inch	135	10 to 19	18.00
1	1/2-inch	180	15 to 24	20.00
2	3/4-inch	260	18 to 34	25.00
3	3/4-inch	355	20 to 47	30.00
4	1 -inch	475	40 to 64	40.00
5	1 -inch	600	45 to 80	45.00
6	1 1/4-inch	800	55 to 106	55.00
7	1 1/4-inch	1000	75 to 134	60.00
8	1 1/2-inch	1400	100 to 181	75.00
9	1 1/2-inch	1900	115 to 254	90.00
10	2 -inch	2400	150 to 320	110.00
11	2 -inch	3000	190 to 400	125.00



3307 N

PENBERTHY XL-96 IMPROVED EJECTOR, PLATE 3307 N

Lifts 22 to 25 feet. Elevates 25 to 100 feet, 30 to 100 pounds pressure.

Sizes 1 to 4 made in all brass only.

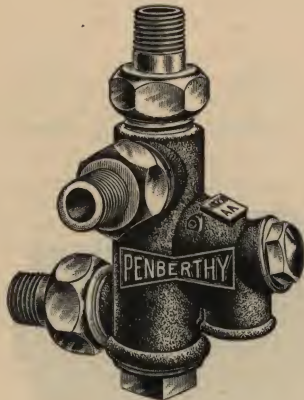
Size number.....	1	2	3	4	5	6	7	8	9	10
Pipe connection, steam.....	3/8	1/2	3/4	1	1	1 1/4	1 1/2	2	2	2 1/2
Pipe connection, suction and delivery.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
All brass, each.....	\$8.00	\$10.00	\$15.00	\$20.00	\$25.00	\$35.00	\$50.00	\$70.00	\$105.00	\$145.00
Iron body, brass jet, each.....					20.00	27.50	40.00	50.00	70.00	95.00

Capacity Per Hour

Size number.....	1	2	3	4	5	6	7	8	9	10
40 to 65 pounds steam, 3 feet lift, gallons.....	240	500	840	1,350	1,950	3,500	5,700	9,500	13,600	18,400
20 to 40 pounds or 65 to 100 pounds, gallons....	235	450	700	1,300	1,850	3,000	4,350	8,160	12,400	17,100
40 to 65 pounds, 50 feet elevation, gallons.....	120	250	420	650	975	1,750	2,500	4,750	6,800	9,200
40 to 65 pounds, 25 feet elevation, gallons.....	180	375	625	950	1,450	2,600	3,750	7,200	10,200	13,800



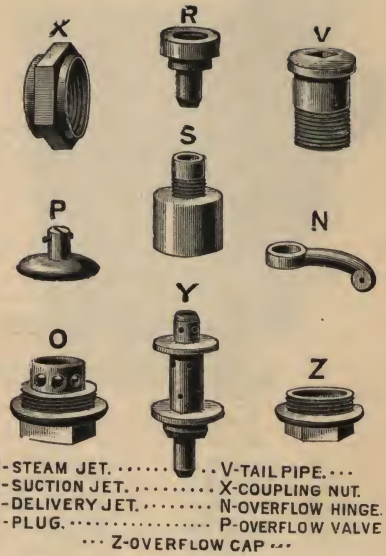
PENBERTHY INJECTOR, PLATE 3308 N



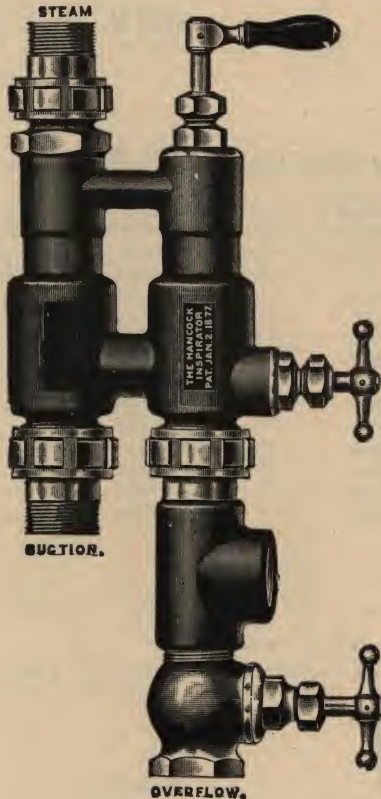
3308 N

Size	Price	Pipe Connections	Capacity per Hour, 1 to 3 ft. Lift, 60 to 85 lbs. Pressure.		Horse Power Will Supply
			Maximum	Minimum	
OO	\$ 16.00	3/8-in.	80 gal.	55 gal.	6 to 12
A	18.00	1/2-in.	135 gal.	70 gal.	10 to 20
AA	20.00	1/2-in.	180 gal.	100 gal.	15 to 30
B	25.00	3/4-in.	260 gal.	140 gal.	22 to 45
BB	30.00	3/4-in.	355 gal.	170 gal.	25 to 60
C	40.00	1 -in.	475 gal.	300 gal.	45 to 80
CC	45.00	1 -in.	600 gal.	350 gal.	50 to 100
D	55.00	1 1/4-in.	800 gal.	425 gal.	60 to 135
DD	60.00	1 1/4-in.	1,000 gal.	525 gal.	85 to 165
E	75.00	1 1/2-in.	1,400 gal.	800 gal.	125 to 235
EE	90.00	1 1/2-in.	1,900 gal.	900 gal.	150 to 320
F	110.00	2 -in.	2,400 gal.	1,300 gal.	200 to 400
FF	125.00	2 -in.	3,000 gal.	1,600 gal.	250 to 500

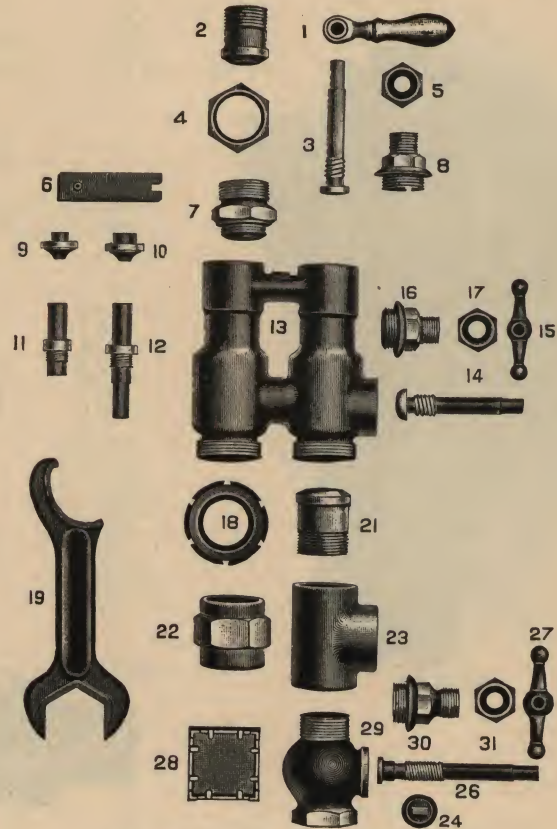
In ordering parts send the serial number and letter, which will be found on top of the overflow.
Designate them by letter, as in diagram and names above.



R-STEAM JET. V-TAIL PIPE. ...
S-SUCTION JET. X-COUPLING NUT.
Y-DELIVERY JET. N-OVERFLOW HINGE.
O-PLUG. P-OVERFLOW VALVE
... Z-OVERFLOW CAP ...



3309 N



Repairs For Hancock Inspirator

HANCOCK INSPIRATOR, PLATE 3309 N

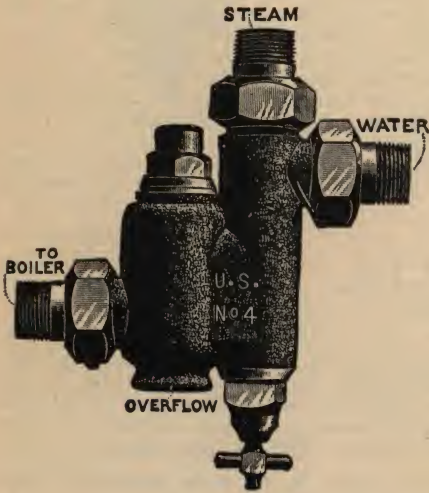
Sizes, No.	Prices	Capacities per Hour				Pipe Connections			
		With 60 Lbs. Steam Pressure and 4-foot Lift	Maximum Horse Power	Steam	Suction	Delivery	Overflow		
7 1/2	\$ 16.00	60	6	3/8	3/8	3/8	1/4		
8 3/4	18.00	90	8	3/8	1/2	1/2	3/8		
10	20.00	120	15	3/8	1/2	1/2	3/8		
12 1/2	25.00	220	30	1/2	3/4	3/4	1/2		
15	30.00	300	40	1/2	3/4	3/4	1/2		
17 1/2	40.00	420	60	3/4	1	1	3/4		
20	45.00	540	75	3/4	1	1	3/4		
22 1/2	55.00	720	90	1	1 1/4	1 1/4	1		

Sizes, No.	Prices	Capacities per Hour				Pipe Connections			
		With 60 Lbs. Steam Pressure and 4-foot Lift	Maximum Horse Power	Steam	Suction	Delivery	Overflow		
25	\$ 60.00	900	120	1	1 1/4	1 1/4	1		
30	75.00	1,260	165	1 1/4	1 1/2	1 1/2	1 1/4		
35	90.00	1,740	230	1 1/4	1 1/2	1 1/2	1 1/4		
40	110.00	2,230	300	1 1/2	2	2	1 1/2		
45	125.00	2,820	375	1 1/2	2	2	1 1/2		
50	150.00	3,480	500	2	2 1/2	2 1/2	2		
55	175.00	3,650	600	2	2 1/2	2 1/2	2		

Capacities are actual as listed with feed water at a temperature of 75° Fahrenheit on a 4-foot lift.



THE U. S. AUTOMATIC INJECTOR, PLATE 3310 N



3310 N

Size	Price	Pipe Connections, Inches	Capacity per Hour, Gallons		Horse Power
			Maximum	Minimum	
00	\$ 13.00	3/4	36	20	1 to 3
0	14.00	3/8	65	35	3 to 6
1	16.00	3/8	90	55	4 to 8
2	18.00	1/2	135	65	8 to 16
3	20.00	1/2	180	100	12 to 22
4	25.00	3/4	260	140	17 to 32
5	30.00	3/4	355	170	20 to 45
6	40.00	1	475	300	40 to 65
7	45.00	1	600	350	45 to 80
8	55.00	1 1/4	800	425	50 to 100
9	60.00	1 1/4	1,000	525	75 to 135
10	75.00	1 1/2	1,400	800	100 to 180
11	90.00	1 1/2	1,900	950	115 to 255
12	110.00	2	2,400	1,300	160 to 320
13	125.00	2	3,000	1,600	200 to 400
14	150.00	2	3,600	2,000	300 to 500
15	175.00	2 1/2	4,000	2,200	350 to 550
16	200.00	2 1/2	4,500	2,500	400 to 600

With Supply Water at 60° F.

On 4-ft. lift	will start at 20 lbs. steam.
	will work at 155 lbs. steam.
On 8-ft. lift	will start at 25 lbs. steam.
	will work at 135 lbs. steam.
On 14-ft. lift	will start at 40 lbs. steam.
	will work at 110 lbs. steam.
On 20-ft. lift	will start at 55 lbs. steam.
	will work at 85 lbs. steam.

With Feed Water at 100° F.

On 4-ft. lift	will start at 20 lbs. steam.
	will work at 120 lbs. steam.
On 10-ft. lift	will start at 35 lbs. steam.
	will work at 90 lbs. steam.
On 15-ft. lift	will start at 45 lbs. steam.
	will work at 70 lbs. steam.

GARFIELD DOUBLE-JET INJECTOR, PLATE 3311 N

This injector is designed for high lift and to take water at a high temperature. We guarantee its action fully. All injectors of this make that fail to give satisfaction may be returned.

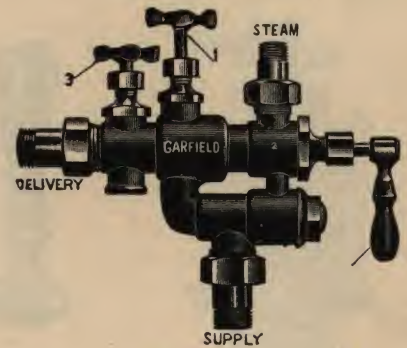
It is absolutely positive in its operation and if properly attached and operated cannot fail. It will lift from 20 to 25 feet and work to boiler. It will take water at from 130 degrees to 140 degrees Fahrenheit and deliver to boiler. It requires no adjustment for variations of steam or lift. It has so large an overpressure and force that an ordinary jar will not affect its operation.

It can be started when hot and it is not necessary to cool injector before starting. It is always ready.

The inside is accessible from several directions, and in consequence is easily cleaned.

Price List and Table of Capacities

Size	Maximum Steam	Inside Diameter Supply	of Pipes Delivery	Gallons per Hour at 60 Pounds Pressure		Horse Power	Price
				Pressure	Pressure		
00	3/8	3/8	3/8	80	4 to 11	\$ 16.00	
0	3/8	1/2	1/2	135	10 to 19	18.00	
1	3/8	1/2	1/2	180	15 to 24	20.00	
2	1/2	3/4	3/4	260	18 to 34	25.00	
3	1/2	3/4	3/4	355	20 to 47	30.00	
4	3/4	1	1	475	40 to 64	40.00	
5	3/4	1	1	600	45 to 80	45.00	
6	1	1 1/4	1 1/4	800	55 to 106	55.00	
7	1	1 1/4	1 1/4	1,000	75 to 134	60.00	
8	1 1/4	1 1/2	1 1/2	1,400	100 to 181	75.00	
9	1 1/4	1 1/2	1 1/2	1,900	115 to 254	90.00	
10	1 1/2	2	2	2,400	150 to 320	110.00	
11	1 1/2	2	2	3,000	190 to 400	125.00	
12	2	2 1/2	2 1/2	3,600	275 to 480	150.00	
13	2	2 1/2	2 1/2	4,200	375 to 560	180.00	
14	2	2 1/2	2 1/2	4,500	400 to 600	200.00	



3311 N

GARFIELD PATENT AUTOMATIC INJECTOR, PLATE 3312 N

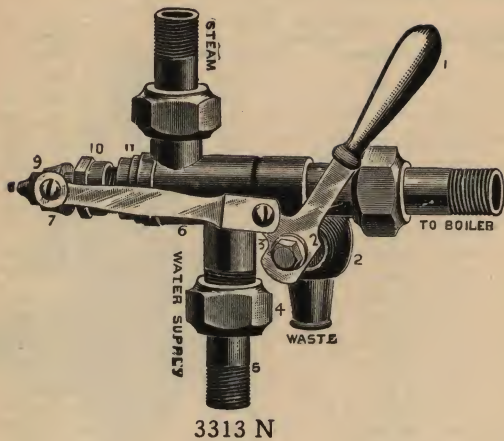
This injector will lift from 15 to 20 feet, and will work well when taking water with a pressure.

The tubes are removable without a wrench; water does not come in contact with the case; lime cannot deposit on the case so as to prevent the tubes from coming out; can be repaired at small cost. Duplicate parts are readily supplied.



3312 N

Size	Maximum Steam	Inside Diameter Supply	of Pipes Delivery	Gallons per Hour at 60 Pounds Pressure		Horse Power	Price
				Pressure	Pressure		
1	1/2	1/2	1/2	120	10 to 15	\$ 20.00	
2	1/2	3/4	3/4	220	15 to 24	25.00	
3	1/2	3/4	3/4	300	24 to 35	30.00	
4	3/4	1	1	420	35 to 50	40.00	
5	3/4	1	1	540	50 to 65	45.00	
6	1	1 1/4	1 1/4	720	65 to 90	55.00	
7	1	1 1/4	1 1/4	900	90 to 115	60.00	
8	1 1/4	1 1/2	1 1/2	1,200	115 to 150	75.00	
9	1 1/4	1 1/2	1 1/2	1,700	150 to 200	90.00	
10	1 1/2	2	2	2,200	200 to 275	110.00	
11	1 1/2	2	2	2,800	275 to 350	125.00	
12	2	2 1/2	2 1/2	3,400	350 to 425	150.00	
13	2	2 1/2	2 1/2	4,000	425 to 500	180.00	
14	2	2 1/2	2 1/2	4,500	500 to 600	200.00	



EXCELSIOR BOILER FEEDER, PLATE 3313 N

This is a double jet injector, having all the capacity and force of the best lift pumps, as well as of the best force pumps. It delivers water to the boiler at high temperature, dispensing with feed water heater. It is one of the simplest and most durable machines of its class. Any one acquainted with steam can attach and work it. It has but one barrel, and the most simple arrangement for tubes for lifting and forcing water that can be obtained. The user, with a common wrench, can remove the union on feed line, and at once remove the forcing tube, which is the only part liable to get obstructed by dirt; he also can remove packing box on the end of machine and draw out the steam rod, when he can at once see through all parts of the machine, as they are all in line. It has no movable parts in its internal construction to cut or wear; no valve, no springs; the tubes or jets are placed solid, on a firm seat or shoulder, but they can be moved or replaced with new ones when necessary by the use of a common wrench, and removing the union on feed line.

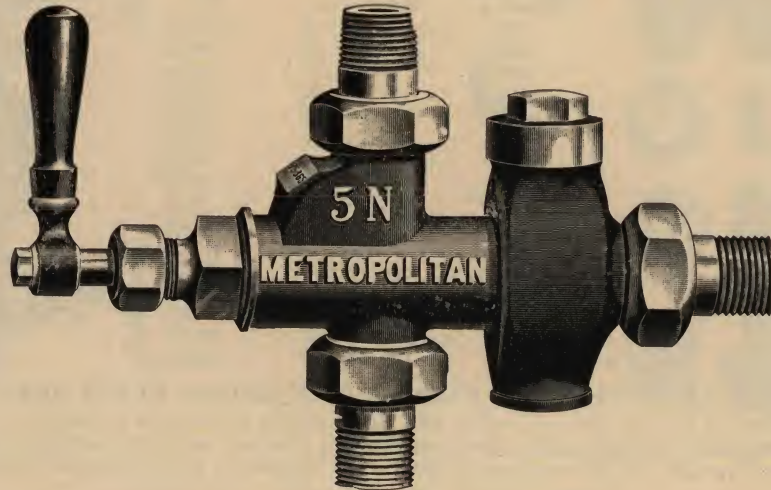
- | | | |
|--------------------------|----------------------|------------------|
| 1. Handle. | 5. Nipple. | 10. Packing box. |
| 2. Handle nut. | 6. Coupling rod. | 11. Bonnet. |
| 3. Washer for 3-way key. | 7. Coupling rod arm. | 12. Steam jet. |
| 4. Collar. | 8. Steam stem. | 13. Water jet. |
| | 9. Nut stem. | |

Directions.—Connect to highest point of boiler to get dry steam, and separate from connection with engine. Place a globe valve between injector and boiler. Keep this valve in good order to prevent leaking steam when not in operation. Attach feed pipe to discharge end of injector, placing check valve near the boiler. Begin at well or tank and lead suction pipe to injector, making sure that all joints are perfectly air-tight, and have line of suction as free as possible from bends and obstruction. Uncouple and remove the injector, and thoroughly blow out the steam pipe before replacing injector. This is imperative.

To Operate.—Push the lever toward the feed line till it stops. Give the injector full steam at the valve between it and boiler. When water appears at overflow, pull lever back to perpendicular position. The feeder is then at work.

To operate the injector under pressure upon the suction, as when attached to hydrants or elevated tanks, place a globe valve in the suction pipe to regulate the supply to injector. The greater the pressure the more it must be throttled.

Number of injector.....	1	2	3	4	5	6	7
Size of connections.....	3/8	3/8	1/2	1/2	3/4	3/4	1
Capacity of boiler.....	2 1/2 to 6 1/2	6 1/2 to 10	10 to 18	18 to 25	25 to 35	35 to 45	45 to 60
Gallons per hour 60 pounds steam pressure..	60	90	150	220	300	400	500
Each.....	\$16.00	\$18.00	\$22.00	\$25.00	\$30.00	\$35.00	\$40.00
Number of injector.....	8	9	10	11	12	13	14
Size of connections.....	1	1 1/4	1 1/4	1 1/2	1 1/2	2	2
Capacity of boiler.....	60 to 70	70 to 90	90 to 125	125 to 150	150 to 180	180 to 235	235 to 300
Gallons per hour 60 pounds steam pressure..	600	750	1,000	1,300	1,800	2,250	2,800
Each.....	\$45.00	\$55.00	\$65.00	\$75.00	\$90.00	\$110.00	\$125.00



3314 N

METROPOLITAN AUTOMATIC INJECTOR, PLATE 3314 N

It is automatic at all working steam pressures. No amount of jarring can stop its working. It will lift the water at comparatively high temperature and cannot blow back in the suction pipe. It can be used as a lifter or non-lifter without any change of tubes. A monkey wrench and screw driver only is required to remove the tubes and regrind the valves.

Number	2	3	3 1/2	4	5	6	7
Size of connections, inches.....	3/8	3/8	1/2	1/2	3/4	3/4	1
Capacity per hour, gallons.....	60	80	120	165	250	350	500
Horse power.....	4 to 6	6 to 8	8 to 15	15 to 20	20 to 30	30 to 45	45 to 65
Each.....	\$15.00	\$16.00	\$18.00	\$20.00	\$25.00	\$30.00	\$40.00
Number	8	9	10	11	12	13	14
Size of connections, inches.....	1	1 1/4	1 1/4	1 1/2	1 1/2	2	2
Capacity per hour, gallons.....	600	800	1,000	1,300	1,750	2,300	2,850
Horse power.....	65 to 80	80 to 100	100 to 130	130 to 170	170 to 230	230 to 300	300 to 375
Each.....	\$45.00	\$55.00	\$60.00	\$75.00	\$90.00	\$110.00	\$125.00



3315 N



3316 N



3317 N



3318 N

GLASS OIL CUPS, PLATE 3315 N TO PLATE 3318 N

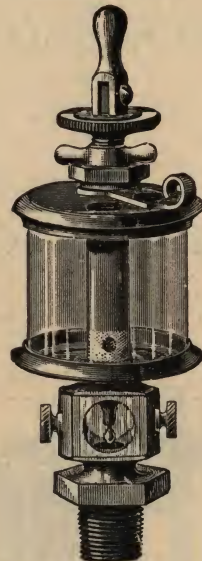
Number	000	00	0	1	1½
Diameter of glass, inches	1	1½	1¼	1½	1⅝
Height glass, inches	7/8	1	1⅛	1⅜	1½
Capacity, ounces	¼	½	⅝	1	1½
Pipe thread, inches	⅛	⅛	⅛	¼	¼
Plate 3315 N, Pioneer slide top, each	\$0.70	\$0.75	\$0.80	\$1.00	\$1.25
Plate 3316 N, Victor index, each	.....	.....	1.00	1.20	1.45
Plate 3317 N, Royal slide top cups, with sight feed, each	.95	1.10	1.25	1.50	1.75
Plate 3318 N, Crown index glass cups, with sight feed, each	.....	.....	1.25	1.50	1.75
Number	2	3	4	5	6
Diameter of glass, inches	2	2¼	2½	3	3½
Height glass, inches	1⅞	2⅛	2⅜	3	4
Capacity, ounces	2½	4	5	10	18
Pipe thread, inches	⅜	⅜	⅜	½	½
Plate 3315 N, Pioneer slide top, each	\$1.50	\$1.90	\$2.40	\$3.10	\$4.00
Plate 3316 N, Victor index, each	1.75	2.15	2.70	3.40	4.30
Plate 3317 N, Royal slide top cups, with sight feed, each	2.10	2.55	3.15	3.90	4.80
Plate 3318 N, Crown index glass cups, with sight feed, each	2.10	2.55	3.15	3.90	4.80

(Lever up)
Shows oil dropping while machinery runs

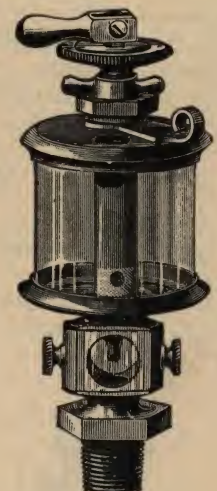
(Lever down)
Shows flow of oil stopped while machinery stops



3319 N



3320 N



3321 N

MIAMI PLAIN GLASS BODY OIL CUP, PLATE 3319 N

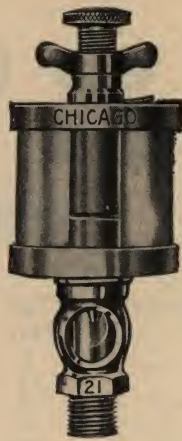
Number	000	00	0	1	1½	2	3	4	5	6
Height glass, inches	7/8	1	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	3½
Capacity, ounces	¼	½	⅝	1	1½	2½	4	5	10	18
Pipe thread, inches	⅛	⅛	⅛	¼	¼	⅜	⅜	⅜	½	½
Finished brass, each	\$0.70	\$0.75	\$0.80	\$1.00	\$1.25	\$1.50	\$1.90	\$2.40	\$3.10	\$4.00

SIGNAL OIL CUPS, PLATE 3320 N AND PLATE 3321 N

Number	0	1	1½	2	3	4	5	6
Outside diameter of glass, inches	1¼	1½	1¾	2	2¼	2½	3	3½
Height of glass, inches	1⅞	1⅞	1⅞	1⅞	2⅞	2⅞	3	4
Capacity	5/8 oz.	1 oz.	1½ oz.	2½ oz.	¼ pt.	⅓ pt.	½ pt.	1 pt.
Size of shank pipe thread, inches	¼	¼	⅜	⅜	⅜	½	½	½
Finished, each	\$3.00	\$3.25	\$3.50	\$3.75	\$4.25	\$5.25	\$7.25	\$ 9.25
Nickel plated, each	3.50	3.75	4.00	4.25	4.75	5.75	8.00	10.25



3322 N



3323 N



3324 N



3325 N

CHICAGO PLAIN GLASS OIL CUP, PLATE 3322 N

Number	30	31	31½	32	33	34	35
Height of glass, inches.....	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3
Capacity, ounces	⅝	1	1½	2½	4	5	10
Shank pipe thread, inches.....	⅛	¼	¼	⅜	⅜	⅜	½
Brass finish, each.....	\$0.80	\$1.00	\$1.25	\$1.50	\$1.90	\$2.40	\$3.10

CHICAGO PLAIN SIGHT-FEED GLASS OIL CUP, PLATE 3323 N

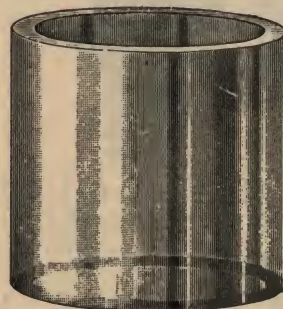
Number	20	21	21½	22	23	24	25
Height of glass, inches.....	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3
Capacity, ounces	⅝	1	1½	2½	4	5	10
Shank pipe thread, inches.....	⅛	¼	¼	⅜	⅜	⅜	½
Brass finish, each.....	\$1.25	\$1.50	\$1.75	\$2.10	\$2.55	\$3.15	\$3.90

CHICAGO SNAP LEVER SIGHT-FEED GLASS OIL CUP, PLATE 3324 N

Number	0	1	1½	2	3	4	5
Height of glass, inches.....	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3
Capacity, ounces	⅝	1	1½	2½	4	5	10
Pipe thread, inches.....	⅛	¼	¼	⅜	⅜	⅜	½
Brass finish, each.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.25	\$5.25	\$7.25

CHICAGO GLASS BODY SIGHT-FEED LUBRICATOR, PLATE 3325 N

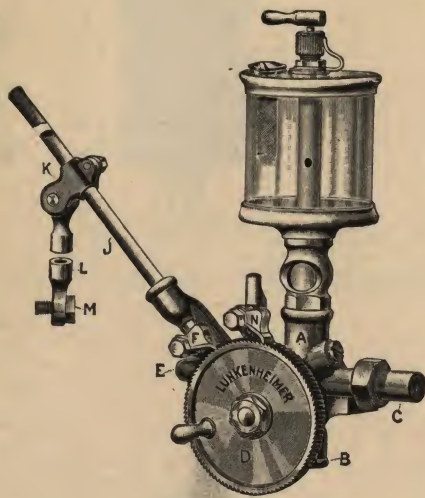
Number	12	13	14	15
Height of glass, inches.....	1⅞	2⅞	3⅞	3
Capacity, ounces	2½	4	5	10
Pipe thread, inches.....	⅜	⅜	⅜	½
Brass finish, each.....	\$5.00	\$5.50	\$6.50	\$9.00



3326 N

CYLINDRICAL GLASSES, PLATE 3326 N

Number	000	00	0	1	1½	2	3	4	5	6	8
Outside diameter, inches....	1	1⅛	1¼	1½	1¾	2	2¼	2½	3	3½	4¼
Height glass, inches.....	⅞	1	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4	5
Each	\$0.05	\$0.06	\$0.08	\$0.10	\$0.10	\$0.12	\$0.15	\$0.25	\$0.35	\$0.65	\$1.50
Cork washers, per dozen....	.15	.18	.24	.30	.36	.40	.45	.50	.60	.75	1.50



3327 N



3328 N

"MARVEL" SINGLE-FEED MECHANICAL OIL PUMP, PLATE 3327 N

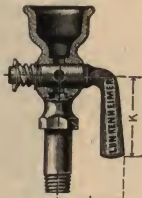
Style	Finished Brass	Nickel Plated
Pump, without oil cup, each.....	\$16.00	\$18.00
Pump, with 1-pint oil cup, each.....	19.00	21.00
Pump, with 1-quart oil cup, each.....	24.00	26.50
Pump, with 1/2-gallon oil cup, each.....	31.00	35.00

"ALPHA" GLASS BODY OIL PUMP, PLATE 3328 N

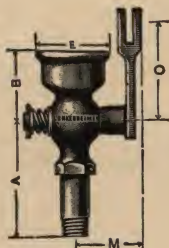
Number	3	5	6	8
Outside diameter of glass, inches.....	2 1/4	3	3 1/2	4 1/4
Height of glass, inches.....	2 1/8	3	4	5
Capacity	1/8 pt.	1/2 pt.	1 pt.	1 qt.
Pipe thread, inches.....	3/8	3/8	1/2	1/2
Finished brass, each.....	\$7.50	\$8.50	\$10.00	\$15.00
Nickel plated, each.....	8.25	9.50	11.00	16.50



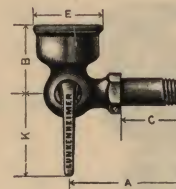
3329 N



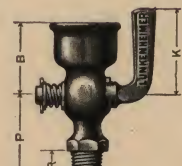
3330 N



3331 N



3332 N



3333 N

COMBINED PRIMING CUPS AND RELIEF COCKS, PLATE 3329 N TO PLATE 3333 N

Number	00	0	1	2	3	4
Pipe threads, inches.....	1/8	1/8	1/8	1/4	1/4	3/8
Plate 3329 N, tee handle, each	\$0.70	\$0.80	\$0.90	\$1.00	\$1.30	\$1.50
Plate 3330 N, lever handle, each .....	.75	.85	.95	1.10	1.40	1.65
Plate 3331 N, forked handle, each.....	.95	1.15	1.30	1.50	1.75	2.00
Plate 3332 N, long shank, lever handle, each.....	.85	1.00	1.15	1.35	1.60	1.90
Plate 3333 N, short shank, lever handle, each.....	.80	.95	1.05	1.25	....	....



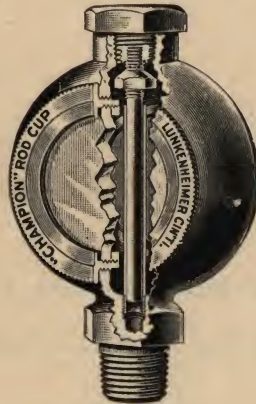
3334 N

**LUNKENHEIMER'S AUTOMATIC ROD CUPS,
PLATE 3334 N AND PLATE 3335 N**

Number	0	1	1½	2	3	4
Extreme outside diameter of cup, inches..	1½	1¾	2	2¼	2½	2¾
Extreme height of cup (plug raised, open to fill), inches.....	3 ¹¹ / ₁₆	4 ³ / ₁₆	4 ¹¹ / ₁₆	5 ¹ / ₈	5 ¹³ / ₁₆	6
Outside diameter of glass, inches.....	1¼	1½	1¾	2	2¼	2½
Height of glass, inches.....	1⅞	1¾	1⅝	1⅞	2⅞	2¾
Capacity, ounces	⅝	1	1½	2½	4	5
Shank pipe thread, inches.....	⅞	¼	¼	⅜	⅜	⅜
Finished brass, each.....	\$1.10	\$1.50	\$2.00	\$2.50	\$3.00	\$4.00
Nickel plated, each.....	1.25	1.70	2.25	2.75	3.30	4.35



3335 N



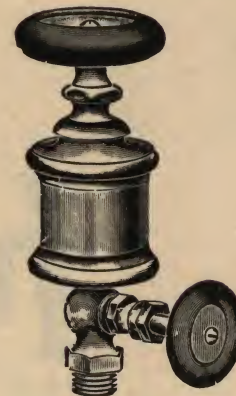
3336 N

CHAMPION ROD CUPS, PLATE 3336 N

Number	1	2	3	4
Capacity, ounces	1¼	2½	5	12
Outside diameter, inches.....	2	2½	3	4
Height of cup, inches.....	3¼	3⅞	4⅝	5¾
Width, inches	1⅝	1 ¹⁵ / ₁₆	2¼	2⅞
Shank pipe thread, inches.....	¼	⅜	½	¾
Brass, each	\$1.40	\$2.00	\$2.60	\$4.00
Nickel plated, each.....	1.50	2.20	2.80	4.40
Glasses, each .....	.05	.08	.10	.15
Cork washers, per dozen.....	.30	.40	.45	.60



3337 N



3338 N

PLAIN BRASS OIL CUPS, PLATE 3337 N

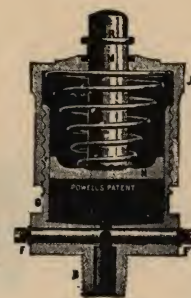
Number	00	0	1	2	3	4	5	6	7	8	9
Outside diameter, inches...	⅝	¾	⅞	1	1¼	1½	1¾	2	2¼	2½	3
Pipe thread, inches.....	⅞	⅞	⅞	¼	¼	⅜	⅜	½	½	½	¾
Each	\$0.25	\$0.30	\$0.35	\$0.40	\$0.60	\$0.90	\$1.25	\$1.75	\$2.25	\$2.75	\$4.50

COMMON LUBRICATORS, PLATE 3338 N

Diameter, inches	1	1¼	1½	1¾	2	2¼	2½	3	3½	4
Pipe thread, inches.....	⅜	⅜	⅜	½	½	½	½	¾	¾	¾
Each	\$2.00	\$2.20	\$2.40	\$2.60	\$2.90	\$3.25	\$3.75	\$4.75	\$7.00	\$10.00



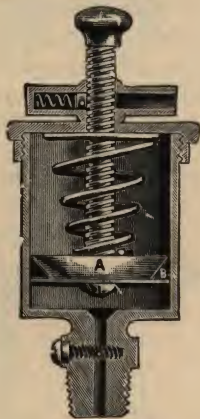
3339 N



3340 N

POWELL'S PATENT COMPRESSION GREASE CUPS, PLATE 3339 N AND PLATE 3340 N

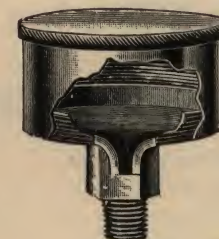
Number	00	0	1	2	3
Diameter, inches	1	1¼	1½	2	2½
Capacity, ounces	⅓	1	1½	3	4½
Pipe thread, inches.....	¼	¼	⅜	⅜	½
Brass, polished, per dozen.....	\$21.00	\$25.00	\$29.00	\$33.50	\$50.00
Brass, nickel plated, per dozen.....	24.00	28.00	32.00	37.00	54.90
All iron, per dozen.....	10.00	11.25	12.00	12.50	25.00



3341 N



3342 N



3343 N

MOON AUTOMATIC GREASE CUP, PLATE 3341 N

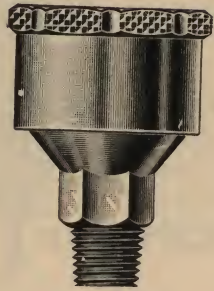
Number	0	1	2	3	4	5
Diameter, inches	1¼	1½	1¾	2	2¾	3⅜
Height over all, inches.....	3¼	4½	4¾	5¼	6½	8
Pipe thread, inches.....	⅛	¼	¼	⅜	½	½
Capacity, ounces	⅓	1	1½	2⅛	4½	10
Finished brass, each.....	\$1.50	\$2.00	\$2.50	\$3.20	\$4.30	\$6.00
Finished nickel plated, each.....	1.75	2.25	2.80	3.60	5.00	6.75

JEWEL AUTOMATIC GREASE CUP, PLATE 3342 N

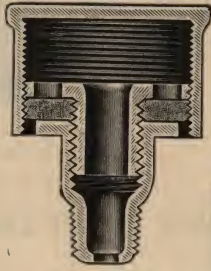
Number	00	0	1	2	3	4
Inside diameter, inches.....	1	1¼	1½	2	2½	3
Pipe thread, inches.....	⅛	¼	¼	⅜	½	½
Capacity (grease), ounces.....	⅓	1	1½	3	6	10
Finished, each	\$0.80	\$1.00	\$1.30	\$1.70	\$2.30	\$3.20

PLAIN GREASE CUP, PLATE 3343 N

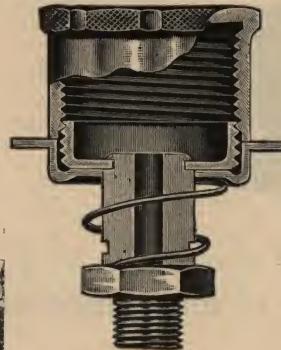
Number	1	2	3	4	5	6	7
Diameter, inches	1⅛	1½	1⅞	2⅛	2¾	3	3½
Height, inches	1½	1¾	2	2¼	2¾	4¾	6¾
Pipe thread, inches.....	⅛	¼	¼	⅜	½	½	¾
Finished brass, each.....	\$0.70	\$0.90	\$1.15	\$1.50	\$2.15	\$2.90	\$5.50



3344 N



3345 N



3346 N



3347 N

"EMPRESS" PLAIN COMPRESSION BRASS AND STEEL GREASE CUPS, PLATE 3344 N AND PLATE 3345 N

Number	00	0	1	2	3	4
Inside diameter, inches.....	1	1 1/4	1 1/2	2	2 1/2	3
Pipe thread, inches.....	1/8	1/4	1/4	3/8	1/2	1/2
Capacity, ounces	1/2	2/3	1	2	3 1/2	5
Finished brass, each.....	\$0.70	\$0.90	\$1.15	\$1.50	\$2.15	\$3.50
Rough steel finish, each.....	.50	.65	.80	1.05	1.45	2.00

"EMPRESS" RATCHET COMPRESSION BRASS GREASE CUP, PLATE 3346 N

Number	000	00	0	1	2	3
Inside diameter, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2
Pipe thread, inches.....	1/8	1/8	1/4	1/4	3/8	1/2
Capacity, ounces	1/4	1/2	1	1	2	3 1/2
Finished brass, each.....	\$1.05	\$1.25	\$1.50	\$1.90	\$2.50	\$3.40

"EMPRESS" SPRING COMPRESSION BRASS AND STEEL GREASE CUPS, PLATE 3347 N

Number	00	0	1	2	3
Inside diameter, inches.....	1	1 1/4	1 1/2	2	2 1/2
Pipe thread, inches.....	1/8	1/4	1/4	3/8	1/2
Capacity, ounces	1/2	1	1 1/2	3	6
Finished brass, each.....	\$1.50	\$2.00	\$2.50	\$3.20	\$4.30
Rough steel, each.....	1.30	1.50	1.75	2.00	2.75



3348 N



3349 N



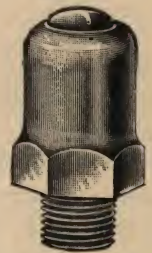
3350 N



3351 N



3352 N



3353 N

PRESSED STEEL OIL CUPS, PLATE 3348 N TO PLATE 3351 N

Number	1	2	3	4	5
Diameter of stock thread, inches.....	1/4	5/16	3/8	7/16	1/2
Pitch	32	32	24	24	24
Nickel plated, per 100.....	\$7.00	\$9.50	\$10.70	\$12.50	\$16.00

PRESSED STEEL CUPS, PLATE 3352 N

Number	20	21	22	23	24	25
Thread	291-32	5/16-32	3/8-24	1/8-in. pipe	1/4-in. pipe	3/8-in. pipe
Nickel plated, per 100.....	\$4.00	4.70	\$5.30	\$6.00	\$7.50	\$10.50

PRESSED STEEL CUPS, PLATE 3353 N

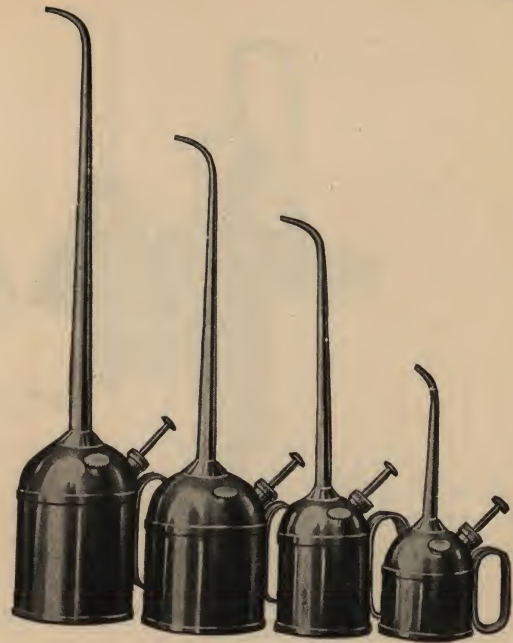
Number	1	2	3	4	5
Thread	1/4-in.-32 V	291-32 V	3/8-in.-24 V	7/16-in.-24 V	1/8-in. pipe
Nickel plated, per 100.....	\$7.00	\$9.50	\$10.70	\$12.50	\$16.00



3354 N

ENGINEERS' SETS, PLATE 3354 N

- Brass, six pieces, including round tray, per set... \$ 9.00
- Brass, nickel plated, six pieces, including round tray, per set 11.00
- Copperized steel, six pieces, including round tray, per set 7.00
- Copperized steel, six pieces, including oval tray, per set 10.00



3355 N

HOWLAND SOLID SPOUT PUMP OILER, PLATE 3355 N

Capacity, pints	1/2	1	1 1/2	2
Length spout, inches....	6	10	12	12
Tin, per dozen.....	\$ 9.80	\$12.00	\$15.55	\$17.45
Copperized, per dozen...	16.25	18.25	22.00	24.00
Brass, per dozen.....	20.00	23.25	26.75	30.50



3356 N

BRASS AND STEEL OILERS, PLATE 3356 N

Number	12	13	13-A
Diameter, inches	2 3/4	3 3/8	3 3/8
Length spout, inches.....	2 1/2	3	5
Capacity, pints	1/4	1/3	1/3
Copperized steel, per doz..	\$4.50	\$5.50	\$6.00
Brass, per dozen.....	6.50	8.00	8.75
Number	14	14-A	14-B
Diameter, inches	3 3/8	3 3/4	3 3/4
Length spout, inches.....	9	3	9
Capacity, pints	1/3	1/2	1/2
Copperized steel, per doz..	\$6.50	\$ 7.50	\$ 8.50
Brass, per dozen.....	9.20	10.20	11.20
Number	15	15-A	16
Diameter, inches	4 1/4	4 1/4	4 1/4
Length spout, inches.....	3	5	9
Capacity, pints	1	1	1
Copperized steel, per doz..	\$ 9.25	\$ 9.75	\$10.50
Brass, per dozen.....	12.00	13.00	14.00

STEEL TALLOW POT, PLATE 3357 N

- 1-quart, per dozen \$21.00
- 2-quart, per dozen 25.00



3357 N

ENGINEERS' FILLERS, PLATE 3358 N

- Steel, 1-pint, per dozen..... \$14.00
- Steel, 1-quart, per dozen..... 20.00
- Steel, 2-quart, per dozen..... 24.00
- Brass, 1-quart, per dozen..... 30.00
- Brass, 2-quart, per dozen..... 34.00



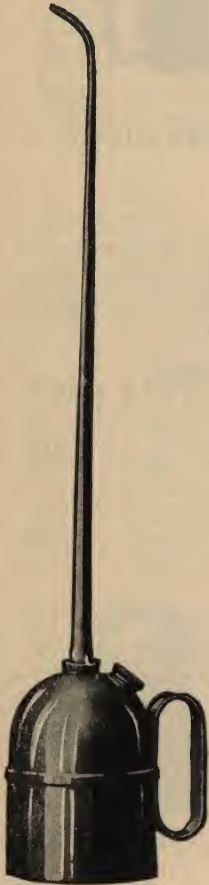
3358 N



3359 N

ZINC OILERS, PLATE 3359 N

Number	00	0	1	2	3	4	5	6
Length of spout, inches.....	2 $\frac{1}{8}$	2 $\frac{1}{8}$	2 $\frac{1}{8}$	4 $\frac{1}{4}$	4 $\frac{1}{4}$	5	5	5
Capacity, ounces	$\frac{3}{4}$	1 $\frac{1}{4}$	2	4	6 $\frac{1}{2}$	8 $\frac{3}{4}$	11	14
Per dozen	\$1.00	\$1.25	\$1.50	\$2.00	\$2.25	\$2.75	\$3.50	\$4.50



3360 N

STEEL RAILROAD OILERS, PLATE 3360 N

- 1-pint, 3 $\frac{3}{8}$ -inch diameter, 12-inch spout, per dozen.....\$14.00
- 1-quart, 4 $\frac{1}{8}$ -inch diameter, 18-inch spout, per dozen..... 18.00

BRASS RAILROAD OILERS, PLATE 3361 N

- 1-pint, 3 $\frac{3}{8}$ -inch diameter, 9-inch spout, per dozen.....\$19.00
- 1-quart, 4 $\frac{1}{8}$ -inch diameter, 12-inch spout, per dozen..... 22.00
- 2-quart, 5-inch diameter, 10 or 14-inch spout, per dozen..... 25.00



3361 N

INDEPENDENT SIGHT-FEED, PLATE 3362 N AND PLATE 3363 N

In large steam plants, where several engines and steam pumps are placed in close proximity to each other, it is sometimes desired to supply oil for all from one large oil tank, so as to do away with separate lubricators. In such cases the "Independent" sight-feed can be used. Shank threaded $\frac{3}{8}$ -inch pipe and union connection for $\frac{1}{4}$ -inch pipe.

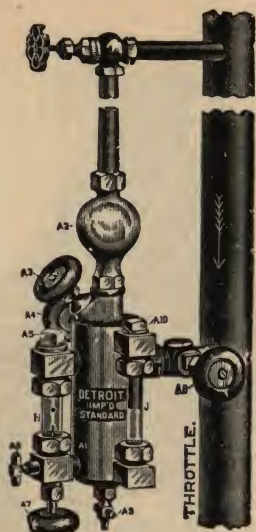


3362 N

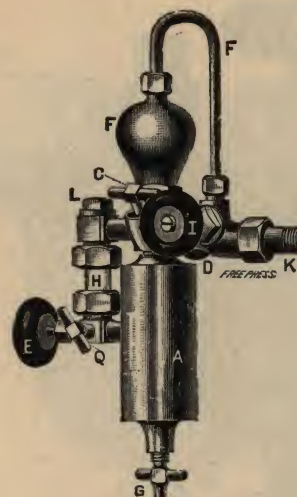


3363 N

Finished brass, plain.....	\$6.00
Nickel plated, plain.....	7.00
Finished brass, with equalizing attachment.....	6.50
Nickel plated, with equalizing attachment.....	7.50



3364 N



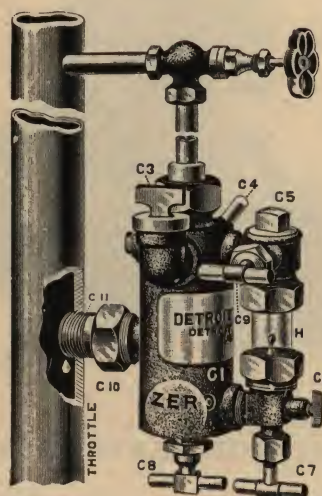
3365 N

DETROIT PATTERN DOUBLE CONNECTION LUBRICATOR, PLATE 3364 N

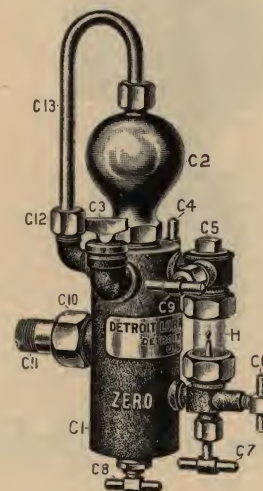
Size	1/3 pt.	1/2 pt.	1 pt.	1 qt.	1/2 gal.	1 gal.
Pipe thread on support arm, inches....	1/2	1/2	1/2	1/2	3/4	3/4
For cylinder, inches.....	Under 10	10 to 12	12 to 18	18 to 30	30 and over	.....
Brass finish, each.....	\$17.00	\$22.00	\$30.00	\$45.00	\$60.00	\$75.00
Nickel plated, each.....	20.00	25.00	35.00	50.00	65.00	80.00

DETROIT PATTERN SINGLE CONNECTION STYLE C LUBRICATOR, PLATE 3365 N

Size	1/4 pt.	1/3 pt.	1/2 pt.	1 pt.	1 qt.
Pipe thread on support arm, inches.....	1/2	1/2	1/2	1/2	1/2
Brass finish, each.....	\$15.00	\$17.00	\$20.00	\$28.00	\$42.00
Nickel plated, each.....	18.00	20.00	23.00	32.00	47.00



3366 N



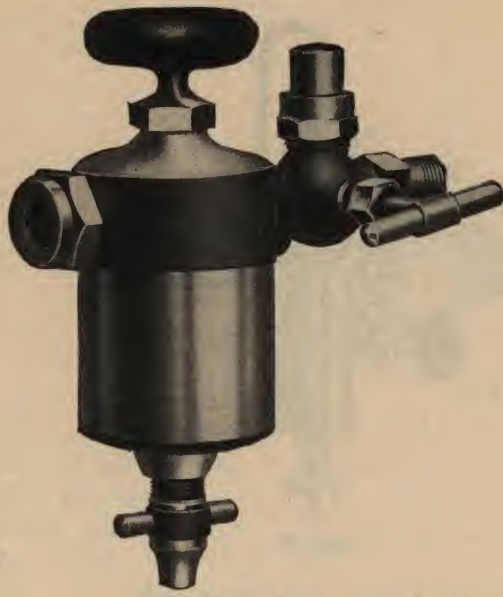
3367 N

ZERO DOUBLE CONNECTION LUBRICATOR, PLATE 3366 N

Size	1/4 pt.	1/3 pt.	1/2 pt.	1 pt.	1 qt.
Bronzed body, finished trimmings, each.....	\$15.00	\$17.00	\$20.00	\$28.00	\$42.00
Nickel plated all over, each.....	18.00	20.00	23.00	32.00	47.00

ZERO SINGLE CONNECTION LUBRICATOR, PLATE 3367 N

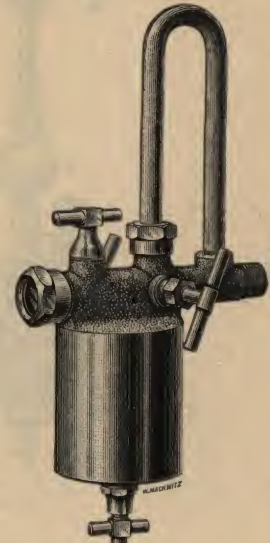
Size	1/4 pt.	1/3 pt.	1/2 pt.	1 pt.	1 qt.
Bronzed body, finished trimmings, each.....	\$15.00	\$17.00	\$20.00	\$28.00	\$42.00
Nickel plated all over, each.....	18.00	20.00	23.00	32.00	47.00



3368 N



3369 N



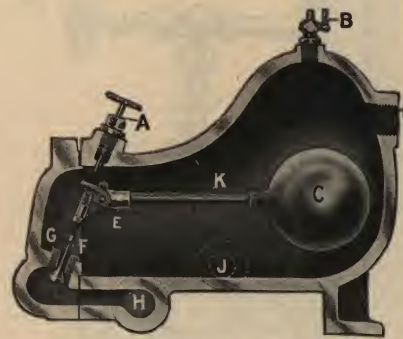
3370 N

SWIFT LUBRICATORS, PLATE 3368 N TO PLATE 3370 N

Capacity	1/4 pt.	1/3 pt.	1/2 pt.	1 pt.	1 1/2 pt.	1 qt.
Pipe thread, inches.....	3/8	3/8	3/8	1/2	1/2	1/2
Plate 3368 N, double connection, class F, brass finish, each.....	\$2.75	\$3.00	\$3.25	\$4.65	\$5.40	\$6.15
Plate 3368 N, double connection, class F, nickel plated, each.....	3.15	3.40	3.65	5.30	6.05	6.80
Plate 3369 N, single connection, class FSC, brass finish, each.....	3.50	3.75	4.00	6.00	6.75	7.50
Plate 3369 N, single connection, class FSC, nickel plated, each.....	3.90	4.15	4.40	6.65	7.40	8.15
Plate 3370 N, single connection, class G, brass finish, each.....	2.15	2.50	2.90	....	....	....
Plate 3370 N, single connection, class G, nickel plated, each.....	2.50	2.85	3.25	....	....	....



3371 N



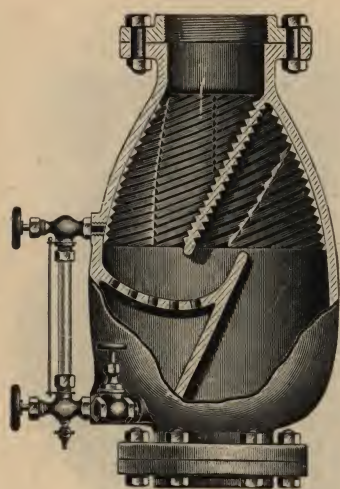
3372 N

JUNIOR SINGLE CONNECTION SIGHT-FEED LUBRICATOR, PLATE 3371 N
For Traction Engines.

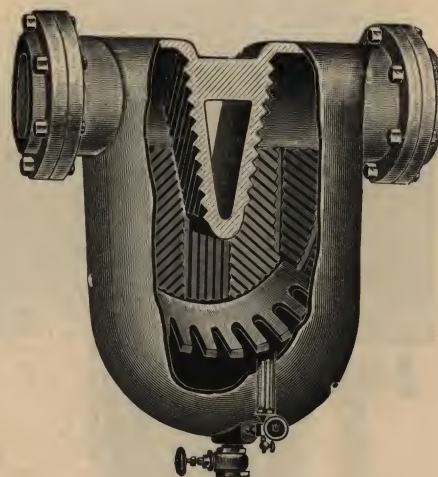
Size, pints	1/4	1/3	1/2
Pipe thread, inches.....	3/8	3/8	1/2
Partly finished, each.....	\$ 7.00	\$ 8.00	\$10.00
All finished, brass condensers and pipes, and wood handles, each	8.50	10.00	12.00
All finished and nickel plated, brass condensers and pipes, and wood handles, each.....	10.00	11.50	13.50

McDANIEL IMPROVED STEAM TRAP, PLATE 3372 N

Number	12	13	14	15	16	17	18
Size of inlet and outlet, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Will drain lineal feet 1-inch pipe.....	500	1,500	4,000	8,000	15,000	20,000	25,000
Will drain square feet radiation.....	166	500	1,333	2,666	5,000	6,666	8,333
Each	\$12.00	\$18.00	\$30.00	\$40.00	\$60.00	\$80.00	\$100.00



3373 N



3374 N

AUSTIN STEAM SEPARATORS, PLATE 3373 N AND PLATE 3374 N

Size, inches	1½	2	2½	3	3½	4	4½
Plate 3373 N, each	\$30.00	\$40.00	\$45.00	\$50.00	\$60.00	\$70.00	\$75.00
Plate 3374 N, each	30.00	40.00	45.00	50.00	60.00	70.00	75.00
Size, inches	5	6	7	8	10	12	
Plate 3373 N, each	\$80.00	\$110.00	\$125.00	\$160.00	\$220.00	\$250.00	
Plate 3374 N, each	80.00	110.00	125.00	160.00	220.00	250.00	



3375 N



3376 N

GARDNER STEAM SEPARATOR, PLATE 3375 N

Size, inches	2	2½	3	3½	4	4½	5
Size drain, inches.....	¾	¾	1	1	1¼	1¼	1½
Each	\$40.00	\$45.00	\$50.00	\$60.00	\$70.00	\$75.00	\$80.00
Size, inches	6	7	8	10	12	14	
Size drain, inches.....	2	2	2	2½	3	3	
Each	\$110.00	\$125.00	\$160.00	\$220.00	\$250.00	\$300.00	

COCHRAN STEAM SEPARATOR, PLATE 3376 N

Size, inches	2	2½	3	3½	4	4½
Horizontal or vertical, each.....	\$31.00	\$37.50	\$46.00	\$55.00	\$64.00	\$75.00
Size, inches	5	6	7	8	10	12
Horizontal or vertical, each.....	\$84.00	\$108.00	\$128.00	\$147.00	\$187.00	\$220.00



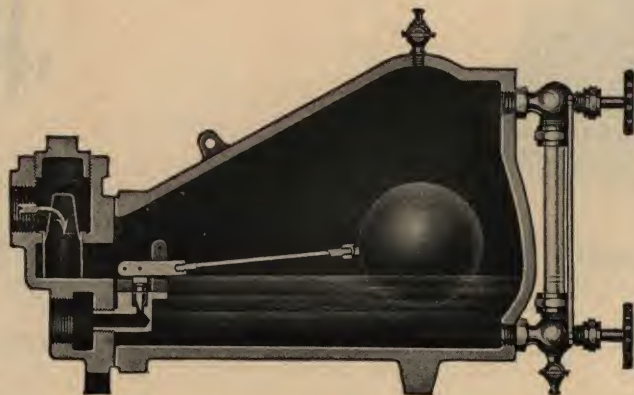
3379 N



3380 N

KIELEY NEW CENTURY IMPROVED STEAM SEPARATORS, PLATE 3379 N AND PLATE 3380 N

Size, inches	2	2½	3	3½	4	4½	5
Each	\$30.00	\$35.00	\$45.00	\$55.00	\$64.00	\$75.00	\$83.00
Size, inches	6	7	8	9	10	12	
Each	\$104.00	\$120.00	\$145.00	\$165.00	\$200.00	\$250.00	



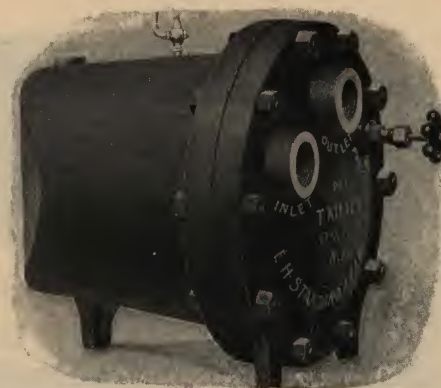
3381 N

KIELEY NEW STANDARD BALL FLOAT STEAM TRAP, PLATE 3381 N

Number	0	1	2	3	4	5	6
Size inlet and outlet, inches.....	½	¾	1	1¼	1½	2	2
Capacity of 1-in. pipe trap will drain, lineal feet..	3,000	4,000	6,000	10,000	15,000	25,000	35,000
Each	\$21.00	\$25.00	\$35.00	\$45.00	\$60.00	\$80.00	\$100.00



3382 N



3383 N

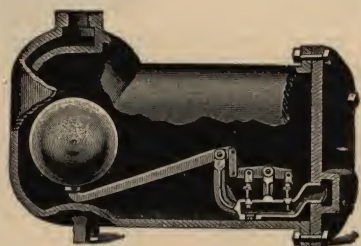
KIELEY STANDARD STEAM TRAP, PLATE 3382 N

For Low Pressure 1 to 30 Pounds. For High Pressure 30 to 125 Pounds.

Number	1	2	3	4	5	6	7
Size inlet and outlet, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Capacity of 1-in. pipe trap will drain, lineal feet...	4,000	6,000	10,000	15,000	25,000	35,000	50,000
Each	\$25.00	\$35.00	\$45.00	\$60.00	\$80.00	\$100.00	\$125.00

KIELEY EXTRA HEAVY STEAM TRAP, PLATE 3383 N

Number	2	3	4	5	6
Size inlet and outlet, inches.....	1	1 1/4	1 1/2	2	2 1/2
Capacity of 1-inch pipe trap will drain, lineal feet.....	6,000	10,000	15,000	25,000	35,000
Each	\$35.00	\$45.00	\$60.00	\$80.00	\$100.00



3384 N



3385 N

DAVIS STEAM TRAP, PLATE 3384 N

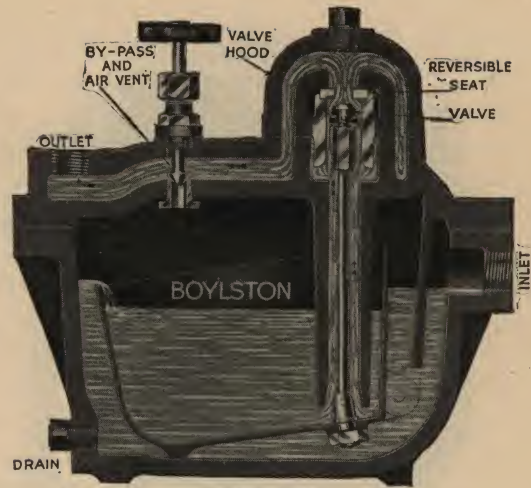
Number	00	0	1	2	3
Inlet and outlet, inches.....	1/2	3/4	1	1 1/4	1 1/2
Capacity of 1-inch pipe, lineal feet.....	1,500	3,000	6,500	15,000	20,000
Each	\$15.00	\$20.00	\$30.00	\$45.00	\$60.00

SQUIRES STEAM TRAP, PLATE 3385 N

Number	A	B	C	D	E	F	G
Size pipe connections, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Capacity 1-inch pipe, lineal feet.....	4,350	6,300	9,300	16,500	28,200	40,800	98,100
Each	\$20.00	\$22.00	\$28.00	\$35.00	\$50.00	\$70.00	\$100.00



3386 N



3387 N

DETROIT RETURN STEAM TRAP, PLATE 3386 N

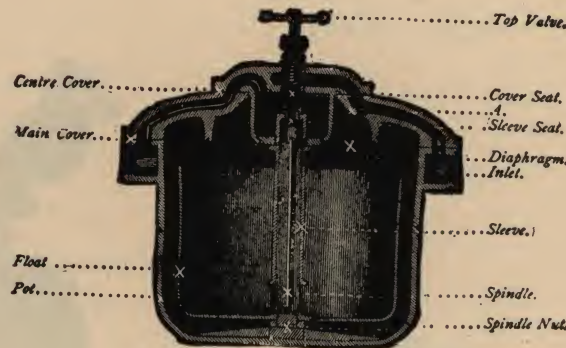
Size trap, inches.....	10	11	12	13	14	15	16
Size water inlet and outlet, inches.....	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Size steam inlet, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2
Capacity 1-inch pipe, lineal feet.....	8,400	15,000	25,000	50,000	66,000	150,000	240,000
Trap only, each.....	\$80.00	\$105.00	\$150.00	\$200.00	\$275.00	\$360.00	\$450.00
Trap and receiver, each.....	90.00	125.00	170.00	225.00	300.00	385.00	475.00

BOYLSTON STEAM TRAP, PLATE 3387 N

Number	0	1	2	3	4	5	6
Size pipe connections, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Capacity 1-inch pipe, lineal feet.....	4,000	6,000	10,000	15,000	25,000	40,000	50,000
Each	\$24.00	\$25.00	\$35.00	\$45.00	\$60.00	\$80.00	\$100.00



3388 N



3389 N



3390 N

WRIGHT EMERGENCY STEAM TRAP, PLATE 3388 N

Size of trap, No.....	1	2	3	4	5	6
Size of inlet and outlet, inches.....	1/2	3/4	1	1 1/4	1 1/2	2
Diameter through inlet and outlet, inches.....	11 1/4	12	12 3/4	13 3/4	15 1/4	16 1/2
Maximum discharge per hour, gallons.....	75	110	180	300	480	720
Radiating surface should not exceed, square feet.....	1,330	2,000	3,330	6,660	9,000	13,300
Each	\$20.50	\$22.50	\$28.00	\$35.00	\$50.00	\$70.00

Note.—The actual capacity of these traps is double the capacity indicated in square feet and lineal feet of 1-inch pipe, 50 per cent of their capacity being reserved for emergencies.

NASON STEAM TRAP, PLATE 3389 N

Number	1	2	3	4	5
Size of pipe connections, inches.....	1/2	3/4	1	1 1/4	1 1/2
Diameter outside of flanges, inches.....	10 3/4	14 1/4	15 3/4	19	24 1/4
Height to top of cover, inches.....	8	10	12	14	15 1/2
Lineal feet of 1-inch pipe will drain.....	1,050	2,700	4,200	6,000	10,500
Each	\$16.00	\$20.00	\$27.50	\$42.50	\$70.00

VALVE-BOX PATTERN STEAM TRAP, PLATE 3390 N

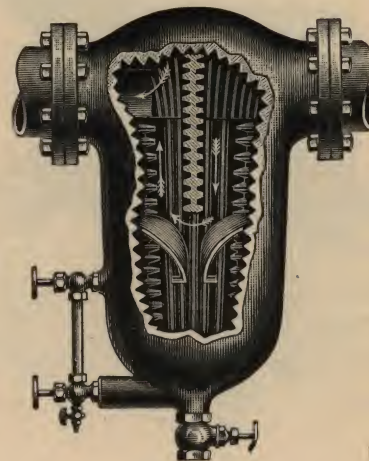
Outside diameter (at bottom), inches.....	12	15	18
Capacity 1-inch pipe, lineal feet.....	1,500	3,500	5,000
Each	\$23.00	\$36.00	\$54.00



3391 N

**KIELEY "1914" OIL AND GREASE EXTRACTOR,
PLATE 3391 N**

Size, inches...	1 to 2	2½	3	3½	4
Each	\$30.00	\$35.00	\$45.00	\$55.00	\$64.00
Size, inches...	4½	5	6	7	8
Each	\$75.00	\$83.00	\$104.00	\$120.00	\$145.00
Size, inches.....	9	10	12	14	
Each	\$165.00	\$200.00	\$250.00	\$375.00	



3392 N

**KIELEY MULTI-TUBULAR OIL AND GREASE
EXTRACTOR, PLATE 3392 N**

Size, inches...	2	2½	3	3½	4
Each	\$30.00	\$35.00	\$45.00	\$55.00	\$64.00
Size, inches...	4½	5	6	7	8
Each	\$75.00	\$83.00	\$104.00	\$120.00	\$145.00
Size, inches.....	9	10	12		
Each	\$165.00	\$200.00	\$250.00		



3393 N



3394 N

CLARK'S DAMPER REGULATOR, PLATE 3393 N

No. 1—For boilers of 5-horse power and under, each.....	\$10.00
No. 2—For boilers of 20-horse power and under, each.....	15.00
No. 3—For boilers of 30 to 500-horse power, each.....	25.00

AUTOMATIC BOILER FEEDER, FOR LOW-PRESSURE BOILER, PLATE 3394 N

For feeding water automatically to steam heating boilers and other low-pressure steam generators, for feed cooking, chemical and mechanical operations, etc. Adapted to all situations where water pressure exceeds that carried in boiler. Will maintain uniform stage of water in boiler without attention or care of persons in charge. Operates by a float ball and lever valve, and is perfectly automatic and reliable.

Each	\$20.00
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Single Lever



3395 N

Double Lever



3396 N



3397 N

**RUBBER DIAPHRAGM,
PLATE 3397 N**

**LOW-PRESSURE DAMPER REGULATORS,
PLATE 3395 N AND PLATE 3396 N**

For Portable Steam Heating Boilers.

Single lever, each.....	\$4.50
Double lever, each.....	5.00

	Each		Each
6-inch....	\$0.60	9-inch....	\$1.00
7-inch....	.70	10-inch....	1.25
8-inch....	.75	12-inch....	1.80



3398 N

IDEAL SYLPHON DAMPER REGULATOR, FOR STEAM BOILERS, PLATE 3398 N

The bellows is fed by a 1-inch opening in the bottom plate of the bellows, which is 5 3/4 inches in diameter; 2 1/4 inches high, at rest. The lever is 37 inches long. The complete regulator weighs only 10 1/2 pounds, including bar and weight; shipping weight, boxed, 22 pounds.

This regulator is shipped complete as illustrated and with 12 feet of No. 0 steel plumbers' chain and four S hooks.

Each\$20.00



3399 N

IDEAL SYLPHON WATER REGULATOR, FOR WATER BOILERS AND TANK HEATERS, PLATE 3399 N

No. 42. For water temperatures running from 120° to 180°

No. 43. For water temperatures running from 160° to 220°

No. 44. For water temperatures running from 190° to 240°

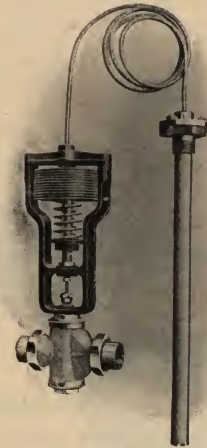
Each\$25.00



3400 N

IDEAL SYLPHON WATER REGULATOR, PLATE 3400 N

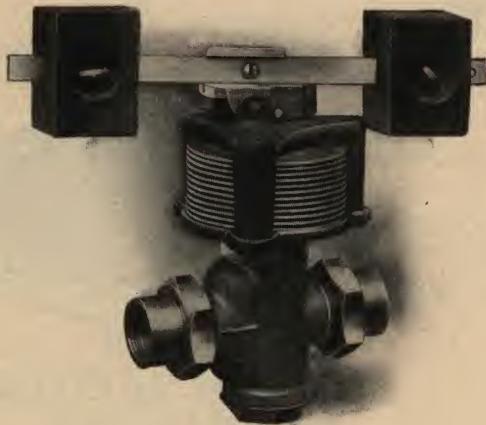
No. 45. Each.....\$20.00



3401 N

IDEAL SYLPHON TANK REGULATOR, PLATE 3401 N

Size, inches.	1/2	3/4	1	1 1/4	1 1/2	2
Each	\$60.00	\$65.00	\$70.00	\$75.00	\$80.00	\$90.00
Size, inches.	2 1/2	3	4	5	6	8
Each	\$95.00	\$100.00	\$120.00	\$260.00	\$350.00	\$480.00



3402 N

IDEAL SYLPHON REDUCING VALVE, PLATE 3402 N

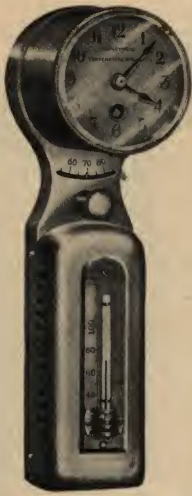
Size, inches.....	1/2	3/4	1	1 1/4	1 1/2
Each	\$25.00	\$25.00	\$28.00	\$33.00	\$35.00
Size, inches.....	2	2 1/2	3	3 1/2	4
Each	\$44.00	\$57.00	\$72.00	\$85.00	\$100.00



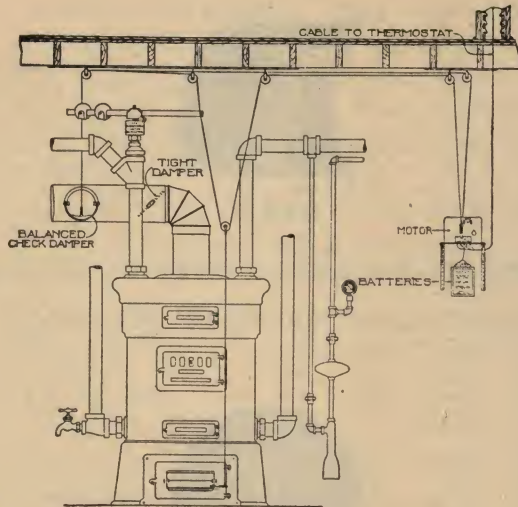
3403 N

HONEYWELL WATER REGULATOR, PLATE 3403 N

No. 3. Each.....\$20.00



3404 N



How Honeywell temperature regulator can be installed in connection with Honeywell No. 3 water regulator as used in Honeywell system of hot water heating. Motor, as illustrated in Plate 3405 N, bracketed to side wall.



Gravity Motor

3405 N

HONEYWELL TEMPERATURE REGULATOR, PLATE 3404 N

- Model 4—Plain pattern, thermostat spring motor, each..\$38.00
- Model 6—One-day clock pattern, spring motor, each... 47.00
- Model 8—Eight-day automatic, spring motor, each..... 56.00

- Model 14—Plain pattern, non-wind electric motor, each.\$56.00
- Model 16—One-day clock pattern, electric motor, each. 64.00
- Model 18—Eight-day automatic, electric motor, each... 72.00



3406 N

HONEYWELL HEAT GENERATOR, PLATE 3406 N

The Honeywell heat generator is a device designed to be connected to the expansion pipe of a hot water heating system for the purpose of controlling the expansion of the water in the system.

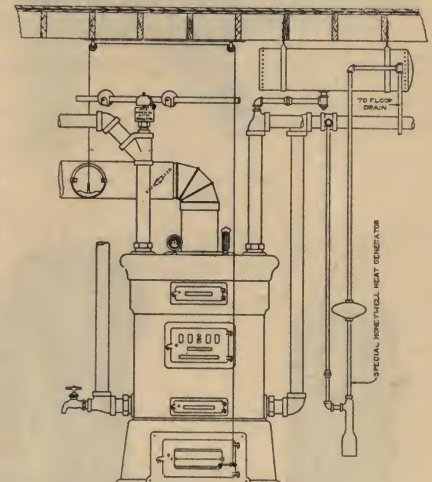
It will generate a pressure of 10 lbs. on the water without any possibility of sticking and causing dangerous pressure, or leaking and becoming useless.

It will stimulate and increase the circulation of the water to such an extent that the piping can be materially reduced.

We do not advocate high water temperatures caused by greatly reducing the radiation. With the Honeywell system normal temperatures only are required.

We reduce the radiation 10 per cent in order to diminish the quantity of water in the system as much as possible. With the rapid circulation gained, the remaining 90 per cent of radiation is quite as efficient as the full amount on a common system, owing to the fact that more even temperatures are maintained in the radiators, and practically no higher water temperatures are required.

- No. 1—For 1,200 square feet radiation, each.....\$25.00
- No. 2—For 2,500 square feet radiation, each..... 35.00
- No. 3—For 4,500 square feet radiation, each..... 50.00
- No. 4—For 10,000 square feet radiation, each..... 65.00



3407 N

Detail of special generator and No. 3 water regulator installation for Honeywell tank-in-basement system.

THE HONEYWELL TANK-IN-BASEMENT METHOD OF HOT WATER HEATING, PLATE 3407 N

For bungalows, one-story or flat-roof buildings, where it is difficult to place expansion tank of a hot water heating plant above the radiators, or where it is liable to freeze, we strongly advise the Honeywell tank-in-basement method.

It is not intended that the tank-in-basement method shall take the place of the regular Honeywell method of installing hot water heating systems, but in such cases as are mentioned above we recommend it.

The Honeywell tank-in-basement method costs practically the same as the ordinary system. It saves running the expansion line to attic and bringing back the overflow pipe, which offsets the increased cost of equipment. Everything is in the basement except the radiators and risers. **Please note the tank-in-basement equipment requires a special Honeywell heat generator.**

Honeywell tank-in-basement equipment consists of a special Honeywell heat generator and a No. 3 water regulator, which lists at the following prices:

For Plants Containing 2,000 Square Feet or Less of Radiation.

- No. 11, for one-story buildings....\$48.00
- No. 12, for two-story buildings.... 52.00
- No. 13, for three-story buildings... 56.00
- No. 14, for four-story buildings... 60.00

For Plants Containing 2,000 to 6,000 Square Feet of Radiation.

- No. 21, for one-story buildings...\$68.00
- No. 22, for two-story buildings.... 76.00
- No. 23, for three-story buildings... 84.00
- No. 24, for four-story buildings... 92.00

Special Welded Air-Tight Expansion Tanks Having no Tappings Above the Water Line.

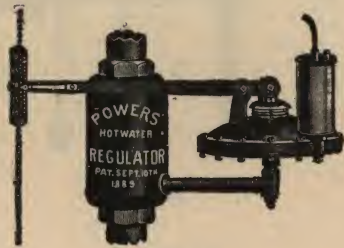
- 21 gallons, size 12x42.....\$ 9.00
- 30 gallons, size 12x60..... 10.00
- 40 gallons, size 14x60..... 11.00



3408 N

HONEYWELL SPECIAL BALANCED CHECK DAMPER, PLATE 3408 N

Size, inches	6	7	8	9	10	12
Each	\$2.00	\$2.20	\$2.50	\$2.80	\$3.00	\$3.60



3409 N



3410 N



3411 N

POWERS REGULATORS AND THERMOSTAT, PLATE 3409 N TO PLATE 3411 N

- No. 2—Regulator may be used on hot water boiler to control room temperature only; will not prevent heater from boiling \$40.00
- No. 3—Regulator complete, for low-pressure steam heater..... 45.00
- No. 4—Regulator complete, for hot water boiler; controls room temperature and absolutely prevents system from boiling over; with this regulator a water temperature of 212° may be carried in extreme weather..... 50.00
- Check dampers (special construction) for smoke pipe should always be used; each, net..... 1.25

No. 47



3413 N



3414 N



3415 N



Spring motor



Gravity motor

MINNEAPOLIS HEAT REGULATORS, PLATE 3413 N TO PLATE 3415 N

No. 35 (with 1-day time), gravity motor only.....				\$35.00	
	Spring Motor	D. C. Motor	A. C. Motor		
No. 40 (no time)	\$40.00	No. 40, D. C.....	\$50.00	No. 40, A. C.....	\$60.00
No. 47 (1-day time)	47.00	No. 47, D. C.....	57.00	No. 47, A. C.....	67.00
No. 57 (double clock)	57.00	No. 57, D. C.....	67.00	No. 57, A. C.....	77.00
No. 60 (8-day time)	60.00	No. 60, D. C.....	70.00	No. 60, A. C.....	80.00
No. 65 (hot water or tank)...	65.00	No. 65, D. C.....	75.00	No. 65, A. C.....	85.00

Order by model number, and if electric specify D. C. or A. C.
Our A. C. motors are 110 volts, 60-cycle.

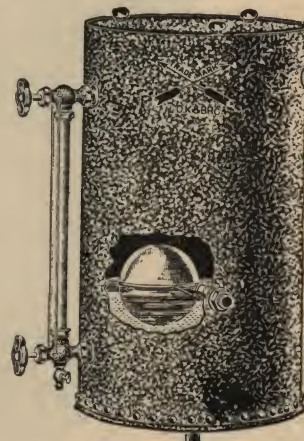


3420 N

PLAIN EXPANSION TANK, PLATE 3420 N

Size, inches.....	10x20	12x20	12x30	14x30	16x30
Capacity, gallons.....	8	10	15	20	26
Square feet radiation.....	250	300	500	700	950
Price tank only.....	\$7.50	\$8.00	\$9.00	\$12.50	\$14.00
Size, inches.....	16x36	16x48	18x60	20x60	22x60
Capacity, gallons.....	32	42	66	82	100
Square feet radiation.....	1,300	2,000	3,000	5,000	6,000
Price tank only.....	\$15.00	\$16.50	\$31.00	\$37.00	\$51.00

Prices do not include water gauges.

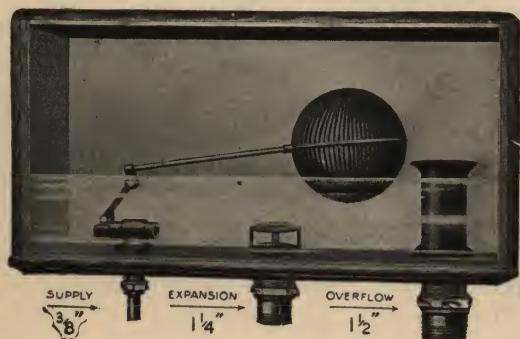


3421 N

AUTOMATIC EXPANSION TANK, PLATE 3421 N

Size, inches.....	12x22	12x34	14x34	16x28	16x34
Capacity, gallons.....	10	15	20	25	30
Square feet radiation.....	300	500	700	950	1,300
Price tank only.....	\$11.00	\$12.00	\$16.00	\$17.00	\$18.00
Size, inches.....	16x46	18x58	20x58	22x58	24x58
Capacity, gallons.....	40	60	80	100	120
Square feet radiation.....	2,000	3,000	5,000	6,000	7,000
Price tank only.....	\$19.00	\$33.00	\$40.00	\$54.00	\$74.00

Prices do not include water gauges.



3422 N

AUTOMATIC EXPANSION TANK, PLATE 3422 N

Inside measurements of tank are: 20 inches long, 9 inches wide, 10 inches deep; and of ample capacity for use on any job of hot water work to which there is attached 3,000 feet of radiation or less.

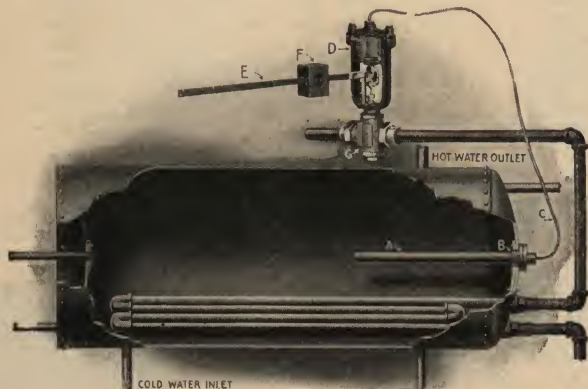


3423 N

EXPANSION TANK BRACKET, PLATE 3423 N

For tanks 12 to 14 inches diameter.
Each\$1.50

Square corners, plain oak.....\$8.50
Rounded corners, varnished, plain oak..... 9.00



3424 N



3425 N

IDEAL SYLPHON TANK REGULATOR, PLATE 3424 N

Size, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	6
Each	\$60.00	\$65.00	\$70.00	\$75.00	\$80.00	\$90.00	\$95.00	\$100.00	\$110.00	\$120.00	\$350.00

IDEAL SYLPHON REGITHERM, PLATE 3425 N

Each \$50.00



3426 N



3427 N

KONGCO CAST IRON BLOW-OFF TANK, PLATE 3426 N

Inside Diameter, Inches	Depth, Inches	Each	Inside Diameter, Inches	Depth, Inches	Each	Inside Diameter, Inches	Depth, Inches	Each
24	30	\$39.00	30	30	\$48.00	42	42	\$ 84.00
24	36	43.00	30	36	52.00	42	48	91.00
24	42	47.00	30	42	58.00	42	54	98.00
24	48	51.00	30	48	62.00	42	60	105.00
24	54	55.00	30	54	67.00	48	48	102.00
24	60	60.00	30	60	72.00	48	54	110.00
26	30	44.00	36	36	63.00	48	60	119.00
26	36	49.00	36	42	70.00	48	66	128.00
26	42	55.00	36	48	77.00	48	72	138.00
26	48	60.00	36	54	84.00			
26	54	66.00	36	60	91.00			

WILKS STEEL GRAVEL BASIN AND BLOW-OFF RECEIVER, PLATE 3427 N

Diameter, inches	18	18	20	20	24	24	24	30
Height, inches	20	24	20	24	24	30	36	24
Capacity, gallons	23	26	28	34	47	59	71	73
Weight, pounds	250	280	300	360	400	450	500	500
Each, with manhole and two flanges	\$40.00	\$42.00	\$45.00	\$50.00	\$55.00	\$58.00	\$60.00	\$60.00
Diameter, inches	30	30	30	30	36	36	36	36
Height, inches	30	36	42	48	30	36	42	48
Capacity, gallons	90	110	130	150	130	160	185	210
Weight, pounds	550	600	650	700	680	740	800	850
Each, with manhole and two flanges	\$65.00	\$68.00	\$72.00	\$76.00	\$70.00	\$76.00	\$80.00	\$82.00

No. 2

No. 4



3428 N

KONGCO STACK HEATERS, PLATE 3428 N AND PLATE 3429 N

To be used in buildings where no electric, steam or water power is available. Heater No. 4 is used in connection with ventilated closets and urinals. Heater No. 2 can be used for ventilated closets and urinals, when two or more runs are installed.

Number	2	4
Weight, pounds	530	375
Each	\$46.20	\$36.00



3429 N



2358 N



2359 N

STANDARD STORAGE TANK, PLATE 2358 N

Capacity Gallons	Diameter, Inches	Length, Feet	Approximate Weight	Regular Openings	LIST PRICE	
					Black	Galv.
66	20	4	250	1½-in.	\$ 43.00	\$ 40.00
85	20	5	290	1½-in.	45.00	42.00
100	24	4	300	1½-in.	47.00	45.00
120	24	5	350	1½-in.	50.00	49.00
140	24	6	400	1½-in.	52.00	52.00
150	30	4	420	2 -in.	55.00	55.00
180	30	5	480	2 -in.	60.00	60.00
220	30	6	540	2 -in.	64.00	65.00
250	30	7	600	2 -in.	70.00	76.00
295	30	8	660	2 -in.	77.00	82.00
365	30	10	750	2 -in.	90.00	92.00
265	36	5	650	2 -in.	76.00	80.00
315	36	6	740	2 -in.	82.00	86.00
365	36	7	820	2 -in.	90.00	94.00
420	36	8	900	2 -in.	100.00	104.00
525	36	10	1,060	2 -in.	110.00	116.00
630	36	12	1,100	2 -in.	120.00	132.00
430	42	6	890	2 -in.	102.00	114.00
500	42	7	1,000	2 -in.	115.00	130.00
575	42	8	1,080	2 -in.	128.00	142.00
720	42	10	1,260	2 -in.	150.00	164.00
865	42	12	1,450	2 -in.	164.00	186.00
1,000	42	14	1,650	2 -in.	180.00	208.00

EXTRA HEAVY STORAGE TANK, PLATE 2359 N

Capacity, Gallons	Diameter, Inches	Length, Feet	Approximate Weight	Regular Openings	LIST PRICE	
					Black	Galv.
120	24	5	400	1½-in.	\$ 59.00	\$ 53.00
145	24	6	460	1½-in.	64.00	57.00
180	30	5	560	2 -in.	70.00	64.00
220	30	6	640	2 -in.	78.00	70.00
250	30	7	700	2 -in.	86.00	80.00
295	30	8	770	2 -in.	94.00	92.00
365	30	10	900	2 -in.	106.00	112.00
265	36	5	860	2 -in.	96.00	98.00
315	36	6	970	2 -in.	103.00	104.00
365	36	7	1,080	2 -in.	112.00	117.00
420	36	8	1,180	2 -in.	120.00	128.00
525	36	10	1,400	2 -in.	140.00	152.00
630	36	12	1,600	2 -in.	160.00	172.00
430	42	6	1,230	2 -in.	130.00	136.00
500	42	7	1,350	2 -in.	150.00	148.00
575	42	8	1,480	2 -in.	170.00	160.00
720	42	10	1,750	2 -in.	190.00	188.00
865	42	12	2,000	2 -in.	210.00	214.00
1,000	42	14	2,250	2 -in.	230.00	226.00
750	48	8	1,800	3 -in.	190.00	188.00
940	48	10	2,100	3 -in.	220.00	230.00
1,130	48	12	2,400	3 -in.	250.00	254.00
1,300	48	14	2,700	3 -in.	280.00	285.00

In ordering, state whether vertical or horizontal tanks are wanted.

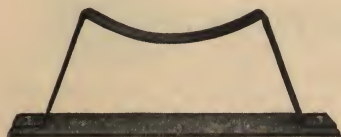
LIST PRICES OF EXTRAS

Standard and Extra Heavy Storage Tanks

2 -inch flange, black or galvanized, each.....	\$ 5.00
2½-inch flange, black or galvanized, each.....	5.00
3 -inch flange, black or galvanized, each.....	6.00
3½-inch flange, black or galvanized, each.....	6.00
4 -inch flange, black or galvanized, each.....	7.00
Handhole in shell or head, black or galvanized, each....	6.00
Manhole in head, black or galvanized, each.....	17.00
Manhole in shell, black or galvanized, each.....	28.00

COILS BUILT IN TANKS

				Black	Galvanized	Brass
						I. P. S.
20x 4	4 pipes	1 -inch	\$12.00	\$15.00	\$ 26.00	
20x 5	4 pipes	1 -inch	12.00	15.00	31.00	
24x 4	4 pipes	1¼-inch	14.00	17.00	34.00	
24x 5	4 pipes	1¼-inch	14.00	17.00	41.00	
24x 6	4 pipes	1¼-inch	16.00	19.00	49.00	
30x 4	4 pipes	1¼-inch	14.00	17.00	34.00	
30x 5	4 pipes	1¼-inch	15.00	18.00	41.00	
30x 6	4 pipes	1¼-inch	16.00	19.00	49.00	
30x 7	4 pipes	1¼-inch	18.00	21.00	56.00	
30x 8	4 pipes	1¼-inch	20.00	23.00	65.00	
30x10	4 pipes	1¼-inch	22.00	25.00	72.00	
36x 5	4 pipes	1½-inch	20.00	23.00	58.00	
36x 6	4 pipes	1½-inch	21.00	24.00	63.00	
36x 7	4 pipes	1½-inch	22.00	25.00	68.00	
36x 8	4 pipes	1½-inch	24.00	28.00	77.00	
36x10	4 pipes	1½-inch	28.00	32.00	90.00	
36x12	4 pipes	1½-inch	32.00	36.00	103.00	
42x 6	4 pipes	1½-inch	20.00	23.00	60.00	
42x 7	4 pipes	1½-inch	22.00	25.00	70.00	
42x 8	4 pipes	1½-inch	24.00	28.00	77.00	
42x10	4 pipes	1½-inch	28.00	32.00	90.00	
42x12	4 pipes	1½-inch	32.00	36.00	108.00	
42x14	4 pipes	1½-inch	36.00	40.00	122.00	
48x 8	4 pipes	2 -inch	34.00	40.00	104.00	
48x10	4 pipes	2 -inch	38.00	44.00	122.00	
48x12	4 pipes	2 -inch	42.00	48.00	146.00	
48x14	4 pipes	2 -inch	46.00	52.00	174.00	



2360 N



2360½ N

SUPPORTS FOR VERTICAL AND HORIZONTAL TANKS, PLATE 2360 N AND PLATE 2360½ N

	Black	Galvanized
24-inch, per pair.....	\$3.00	\$ 4.50
30-inch, per pair.....	3.50	5.00
36-inch, per pair.....	4.00	7.00
42-inch, per pair.....	7.00	12.00
48-inch, per pair.....	9.00	15.00



Nos. 9 to 14



2361 N

No. 14½



2362 N

No. 14¾



2363 N

OUR OWN SERIES "A" WATER HEATERS, PLATE 2361 N TO PLATE 2363 N

Number	9	10	12	14	14½	14¾
Height, inches	26	32	32	36	36	39
Diameter heater, inches	18	18	18	23	23	23
Diameter grate, inches	10	10	12	14	14	14
Outlet, inches	1¼	1¼	1½	2	2	2
Size smoke pipe, inches.....	6	6	6	6	6	6
Tank capacity, gallons.....	80	100	150	250	300	325
Each	\$33.60	\$36.60	\$44.25	\$54.30	\$62.70	\$70.80

When ordering grates for repairs, state if to be one-piece or three-piece.



2364 N



2365 N



2366 N

LITTLE HERCULES COMBINATION TANK AND LAUNDRY HEATER, PLATE 2364 N

No. 90, Little Hercules Heater, with legs, each	\$20.00
No. 90, Little Hercules heater, with sub-base, each.....	24.00

CHICAGO LAUNDRY STOVE, PLATE 2365 N

Number	10
Height, inches	26
Size top, inches.....	18x24½
Diameter base, inches	18
Diameter grate, inches.....	10
Outlet, inches	1¼
Size smoke pipe, inches.....	6
Tank capacity, gallons.....	80
Each	\$38.70

SPECIAL LAUNDRY STOVE, PLATE 2366 N

Number	10	12
Height, inches	32	32
Size top, inches.....	18x24½	18x24½
Diameter base, inches	18	18
Diameter grate, inches.....	10	12
Outlet, inches	1¼	1½
Size smoke pipe, inches.....	6	6
Tank capacity, gallons.....	100	150
Each	\$38.70	\$46.35



2367 N



2368 N



2369 N



2370 N

IDEAL JUNIOR WATER HEATER, PLATE 2367 N

Number	00	0	A 10	A 12	A 20	A 22	A 30	A 32
Height outlet, inches	24	31	35	40 ³ / ₄	42 ¹ / ₈	48 ¹ / ₄	42 ³ / ₄	49
Diameter, inches	15 ¹ / ₄	18	20 ¹ / ₄	20 ¹ / ₄	22 ⁷ / ₈	22 ⁷ / ₈	26 ¹ / ₄	26 ¹ / ₄
Outlets, inches	1-1 ¹ / ₂	1-1 ¹ / ₂	3-1 ¹ / ₂	3-1 ¹ / ₂	3-2	3-2	3-2	3-2
Size smoke pipe, inches	5	5	6	6	6	6	7	7
Each	\$25.00	\$34.00	\$57.00	\$73.00	\$83.00	\$102.00	\$114.00	\$142.00

IDEAL PREMIER WATER HEATER, PLATE 2368 N

Number	101	121	122	151	152	181	182
Height outlet, inches	29 ⁵ / ₈	37 ¹ / ₄	42 ¹ / ₂	42 ⁵ / ₈	47 ⁷ / ₈	44 ³ / ₄	51 ¹ / ₄
Diameter, inches	18	24	24	25 ³ / ₄	25 ³ / ₄	27	27
Outlets, inches	1-1 ¹ / ₂	3-1 ¹ / ₂	3-1 ¹ / ₂	3-2	3-2	3-2	3-2
Size smoke pipe, inches	5	6	6	6	7	7	7
Each	\$37.00	\$65.00	\$77.00	\$89.00	\$106.00	\$118.00	\$138.00

IDEAL ARCO WATER HEATER, PLATE 2369 N

Number	10	12	15
Height outlet, inches	21 ¹ / ₂	22 ³ / ₈	24 ¹ / ₂
Diameter, inches	16	19 ¹ / ₂	21 ¹ / ₂
Outlets, inches	1 ¹ / ₂	1 ¹ / ₂	1 ¹ / ₂
Capacity per hour, gallons	80	145	240
Size smoke pipe, inches	5	5	6
Each	\$33.00	\$37.00	\$50.00

IDEAL LAUNDRY WATER HEATER, PLATE 2370 N

Number	1 D
Height outlet, inches	12 ³ / ₈
Diameter, inches	27 ¹ / ₂
Outlets, inches	1
Capacity per hour, gallons	100
Size smoke pipe, inches	6
Each	\$39.50

WILKS WATER HEATER, NOT SELF-FEEDER, PLATE 2371 N

Size, inches	10x18	12x24	12x30	14x30	14x36
Capacity per hour, gallons	40	65	80	100	120
Inlet and outlet, inches	1	1	1	1 ¹ / ₄	1 ¹ / ₄
Total height, inches	32	43	49	49	55
Each	\$30.00	\$36.00	\$38.00	\$44.00	\$48.00

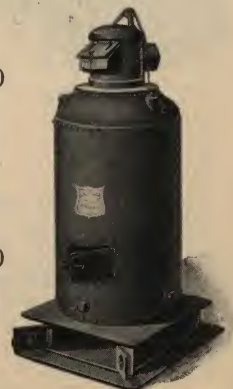


2371 N

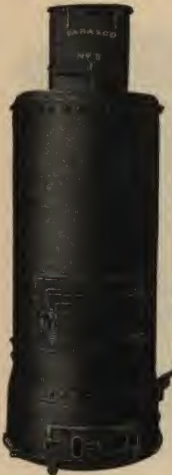
WILKS WATER HEATER, SELF-FEEDER, PLATE 2372 N

Size, inches	16x30	16x36	20x30	20x36	20x42	24x36	24x42
Capacity per hour, gallons	130	150	200	250	275	300	350
Inlet and outlet, inches	1 ¹ / ₂	1 ¹ / ₂	2	2	2	2	2
Total height, inches	52	58	54	60	66	60	66
Each	\$72.00	\$76.00	\$90.00	\$96.00	\$110.00	\$126.00	\$132.00

Size, inches	30x42	30x48	36x42	36x48	42x42	42x48
Capacity per hour, gallons	500	600	900	1,000	1,200	1,400
Inlet and outlet, inches	3	3	3	3	3	3
Total height, inches	67	73	68	74	69	75
Each	\$160.00	\$168.00	\$224.00	\$236.00	\$260.00	\$270.00



2372 N



2373 N

TABASCO JUNIOR WATER HEATER, PLATE 2373 N

Number.....	1	2	3	4	5	6
Size of heater, inches.....	10x16	10x18	12x24	12x30	15x30	15x36
Capacity per hour, gallons.....	30	40	65	80	100	120
Flow and return, inches.....	1	1	1	1	1¼	1¼
Weight, pounds.....	125	130	200	215	280	300
Each.....	\$40.00	\$42.00	\$54.00	\$56.00	\$64.00	\$66.00

All Junior heaters, except Nos. 1 and 2, have front fire doors, and shaking and dumping grate in one piece.

TABASCO WATER HEATER, PLATE 2374 N

Magazine Feed or Surface Burner

Number	17	18	21	22	25
Size of heater, inches.....	17x30	17x36	21x30	21x36	25x36
Capacity per hour, gallons.....	130	150	200	250	300
Total height, inches.....	52	57	52	59	59
Flow and return, inches.....	2-1½	2-1½	2-2	2-2	2-2
Weight, pounds	400	420	520	550	780
Magazine feed, each.....	\$72.00	\$76.00	\$90.00	\$96.00	\$126.00
Surface burner, each.....	66.00	70.00	80.00	88.00	116.00



2374 N

Number	26	27	30	31	32
Size of heater, inches.....	25x42	25x48	30x42	30x48	30x54
Capacity per hour, gallons.....	350	400	500	600	700
Total height, inches.....	65	71	65	75	81
Flow and return, inches.....	2-2	2-2	2-3	2-3	2-3
Weight, pounds	810	840	1,100	1,150	1,240
Magazine feed, each.....	\$132.00	\$142.00	\$160.00	\$168.00	\$176.00
Surface burner, each.....	122.00	130.00	144.00	156.00	164.00

Note.—Magazine feed heaters will always be furnished unless otherwise specified.



2375 N

EXTRA HEAVY TABASCO WATER HEATER AND VERTICAL TANK, PLATE 2375 N

Type R-1, Heater

Made of extra heavy plain steel, tested to 150 pounds pressure, and are safe for a working pressure of 100 pounds.

Number	150	200	300
Capacity per hour, gallons.....	150	200	300
Flow and return, inches.....	1½	2	2
Total height, inches.....	63	58	64
Diameter fire pot, inches.....	12	16	20
Weight, pounds	600	700	950
Heater, with firing tools, each.....	\$106.00	\$128.00	\$150.00

Number	400	500	700
Capacity per hour, gallons.....	400	500	700
Flow and return, inches.....	2	3	3
Total height, inches.....	76	70	86
Diameter fire pot, inches.....	20	25	25
Weight, pounds	1,130	1,500	1,650
Heater, with firing tools, each.....	\$180.00	\$210.00	\$230.00

Type S-1, Tank and Stand

Made of extra heavy plain steel, tested to 150 pounds pressure, and are safe for a working pressure of 100 pounds. Tank stands are made of two-inch pipe and railing fittings.

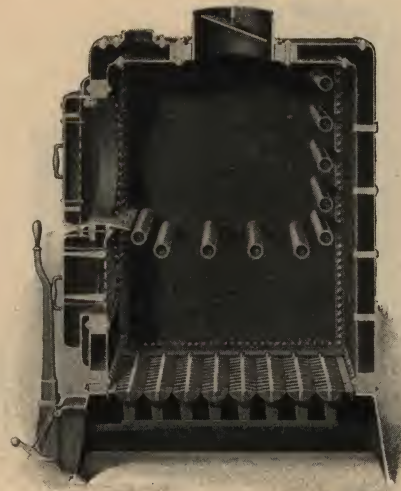
Size tank, inches.....	36x60	42x60	48x60	54x60	60x60	60x72
Capacity tank, gallons.....	265	360	470	590	730	875
Total height tank and stand, inches.....	86	87	88	89	90	102
Weight tank, pounds.....	900	1,200	1,475	1,900	2,300	2,500
Tank with manhole, each.....	\$114.00	\$140.00	\$160.00	\$200.00	\$240.00	\$260.00
Tank stands, each	22.00	24.00	26.00	30.00	32.00	32.00

If manhole is not wanted on tank, deduct..... \$12.00

Extra heavy horizontal tanks can be furnished at same price as vertical tanks.



2376 N



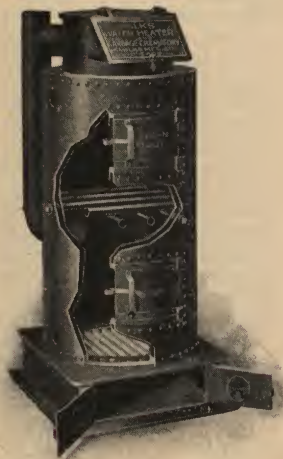
2377 N

KEWANEE WATER HEATING GARBAGE BURNER, PLATE 2376 N
(Type A)

Number	30	31	32
Capacity per hour, gallons.....	200	300	400
Total height, inches.....	58	64	64
Inlet and outlet, inches.....	1½	2	2
Size of smoke stack, inches.....	6	8	8
Approximate weight, pounds.....	600	800	1,000
Each	\$96.00	\$126.00	\$160.00

KEWANEE WATER HEATING GARBAGE BURNER, PLATE 2377 N
(Type D)

Number	34	35	36	37	38	39	40
Capacity per hour, gallons.....	500	600	800	1,000	1,200	1,500	1,800
Total height, inches	56	56	56	56	56	56	56
Inlet and outlet, inches.....	2	2	2½	2½	2½	3	3
Size smoke stack, inches.....	9	9	10	10	10	12	12
Approximate weight, pounds.....	1,600	1,800	2,100	2,300	2,500	3,000	3,300
Each	\$214.00	\$244.00	\$274.00	\$318.00	\$350.00	\$396.00	\$440.00



2378 N

WILKS WATER HEATER AND GARBAGE CREMATORY, PLATE 2378 N

Number	1	2	3	4
Size boiler, inches.....	16x36	20x42	24x42	30x48
Capacity per hour, gallons.....	200	300	400	500
Total height, inches.....	56	64	66	72
Inlet and outlet, inches.....	1½	2	2	3
Size of smoke pipe, inches.....	7	8	8	8
Diameter grates, inches.....	12	15	19	24
For buildings containing apartments.....	1 to 3	3 to 6	6 to 9	9 to 12
Approximate weight, pounds.....	550	825	950	1,300
Each	\$96.00	\$126.00	\$160.00	\$210.00



3430 N



3431 N



The new Ideal Damper Regulator as it appears from a side view of an Ideal Arco Water Boiler. Use of rods, instead of chains, cables, pulleys, hooks, etc., prevents loss of direct motion.

IDEAL ARCO STEAM BOILER, PLATE 3430 N

Size Number	Height to Top Outlet, Inches	Nominal Diameter Grate, Inches	Grate Area, Square Feet	Height Water Line, Inches	Outlets, No. and Size	Inlets, No. and Size	Ratings, Square Feet	Price, Complete
4-19-S	52½	19	1.76	45½	1-2½	2-2½	300	\$149.50
5-19-S	57	19	1.76	50	1-2½	2-2½	350	167.00
6-19-S	61⅝	19	1.76	54⅝	1-2½	2-2½	400	193.00
4-20-S	51½	20	2.23	46⅞	1-3	2-3	375	180.00
5-20-S	56⅞	20	2.23	50¾	1-3	2-3	425	199.50
6-20-S	60⅝	20	2.23	55¼	1-3	2-3	475	213.00
4-22-S	54	22	2.40	47	1-3	2-3	450	206.50
5-22-S	58½	22	2.40	51½	1-3	2-3	525	226.00
6-22-S	63¼	22	2.40	56¼	1-3	2-3	575	240.00
4-23-S	52¾	23	2.91	46⅝	1-3	2-3	500	219.50
5-23-S	57½	23	2.91	51⅝	1-3	2-3	575	240.00
6-23-S	62¼	23	2.91	56⅞	1-3	2-3	650	287.50
4-25-S	55⅝	25	3.14	47⅞	1-3½	2-3½	550	233.00
5-25-S	60¼	25	3.14	52½	1-3½	2-3½	625	277.50
6-25-S	65⅜	25	3.14	57⅝	1-3½	2-3½	700	300.00
4-28-S	57⅝	28	4.12	49¼	1-4	2-4	800	331.00
5-28-S	62⅝	28	4.12	54¼	1-4	2-4	900	360.50
6-28-S	67⅞	28	4.12	59½	1-4	2-4	1,000	389.50
4-31-S	59¾	31	4.90	51	1-4	2-4	1,100	419.00
5-31-S	65	31	4.90	56¼	1-4	2-4	1,275	470.00
6-31-S	70⅜	31	4.90	61⅝	1-4	2-4	1,400	500.00
4-34-S	61½	34	5.94	52	1-5	2-5	1,300	477.00
5-34-S	67	34	5.94	57½	1-5	2-5	1,500	530.00
6-34-S	72⅝	34	5.94	63⅞	1-5	2-5	1,650	575.00

IDEAL ARCO WATER BOILER, PLATE 3431 N

Size Number	Height to Top Outlet, Inches	Nominal Diameter Grate, Inches	Grate Area, Square Feet	Outlets, No. and Size	Inlets, No. and Size	Ratings, Square Feet	Price, Complete
4-19-W	45⅞	19	1.76	2-2½	2-2½	500	\$140.50
5-19-W	50⅜	19	1.76	2-2½	2-2½	575	158.00
6-19-W	55	19	1.76	2-2½	2-2½	650	184.50
4-20-W	45½	20	2.23	2-3	2-3	625	171.00
5-20-W	50⅞	20	2.23	2-3	2-3	700	191.00
6-20-W	54¾	20	2.23	2-3	2-3	775	204.00
4-22-W	47⅝	22	2.40	2-3	2-3	750	197.00
5-22-W	52	22	2.40	2-3	2-3	875	217.50
6-22-W	56⅞	22	2.40	2-3	2-3	950	230.00
4-23-W	46⅝	23	2.91	2-3	2-3	825	210.50
5-23-W	51⅞	23	2.91	2-3	2-3	950	230.00
6-23-W	55⅞	23	2.91	2-3	2-3	1,075	277.50
4-25-W	48¾	25	3.14	2-3½	2-3½	900	224.00
5-25-W	53½	25	3.14	2-3½	2-3½	1,025	270.00
6-25-W	58⅝	25	3.14	2-3½	2-3½	1,150	290.00
4-28-W	50¾	28	4.12	2-4	2-4	1,325	321.50
5-28-W	55¾	28	4.12	2-4	2-4	1,500	350.50
6-28-W	60⅞	28	4.12	2-4	2-4	1,650	380.00
4-31-W	53⅞	31	4.90	2-4	2-4	1,825	409.00
5-31-W	58¼	31	4.90	2-4	2-4	2,100	457.50
6-31-W	63¾	31	4.90	2-4	2-4	2,325	495.00
4-34-W	54¼	34	5.94	2-5	2-5	2,150	467.50
5-34-W	59⅝	34	5.94	2-5	2-5	2,475	525.00
6-34-W	65¼	34	5.94	2-5	2-5	2,725	565.00



3432 N



3433 N

IDEAL SECTIONAL STEAM BOILER, PLATE 3432 N

Size No.	Total Length, Inches	Total Height, Inches	Total Width, Inches	Grate Area, Sq. Ft.	Ash Pit, Inside, Inches	Water Line, Inches	Outlets, No. and Size	Ratings, Sq. Ft.	Price, Complete
S-15-4	40 ⁷ / ₈	53 ¹ / ₂	34 ¹ / ₂	1.95	20 ¹⁵ / ₁₆ x21 ⁵ / ₈	40 ⁷ / ₈	2-3	300	\$ 157.00
S-15-5	47 ¹ / ₈	53 ¹ / ₂	34 ¹ / ₂	2.60	20 ¹⁵ / ₁₆ x27 ¹³ / ₁₆	40 ⁷ / ₈	2-3	425	210.00
S-15-6	53 ³ / ₈	53 ¹ / ₂	34 ¹ / ₂	3.25	20 ¹⁵ / ₁₆ x34	40 ⁷ / ₈	2-3	550	245.00
S-19-5	51 ³ / ₄	55 ³ / ₄	38	3.32	20 x29 ¹⁵ / ₁₆	43 ³ / ₈	2-3	600	259.00
S-19-6	58 ³ / ₈	55 ³ / ₄	38	4.15	20 x36 ⁵ / ₈	43 ³ / ₈	2-3	750	325.00
S-19-7	65	55 ³ / ₄	38	4.98	20 x43 ⁵ / ₁₆	43 ³ / ₈	3-3	900	370.00
S-22-5	53 ¹ / ₄	59 ¹ / ₂	42	4.08	23 ¹ / ₈ x31 ¹³ / ₁₆	46 ¹ / ₄	2-4	800	340.00
S-22-6	60 ¹ / ₄	59 ¹ / ₂	42	5.10	23 ¹ / ₈ x38 ⁷ / ₈	46 ¹ / ₄	2-4	1,000	400.00
S-22-7	67 ¹ / ₄	59 ¹ / ₂	42	6.12	23 ¹ / ₈ x45 ¹⁵ / ₁₆	46 ¹ / ₄	3-4	1,200	460.00
S-25-5	59 ¹ / ₄	64 ¹ / ₈	47 ¹ / ₄	5.44	28 x35 ³ / ₁₆	51	2-4	1,100	430.00
S-25-6	66 ⁷ / ₈	64 ¹ / ₈	47 ¹ / ₄	6.80	28 x42 ⁷ / ₈	51	2-4	1,350	505.00
S-25-7	74 ¹ / ₂	64 ¹ / ₈	47 ¹ / ₄	8.16	28 x50 ⁹ / ₁₆	51	3-4	1,600	580.00
S-25-8	82 ¹ / ₄	64 ¹ / ₈	47 ¹ / ₄	9.52	28 x58 ¹ / ₄	51	3-4	1,850	655.00
S-28-5	60	67 ¹ / ₁₆	50 ¹ / ₂	6.24	30 ⁵ / ₈ x35 ¹ / ₂	53 ³ / ₈	2-4	1,300	490.00
S-28-6	68	67 ¹ / ₁₆	50 ¹ / ₂	7.80	30 ⁵ / ₈ x43 ¹ / ₂	53 ³ / ₈	2-4	1,625	587.00
S-28-7	76	67 ¹ / ₁₆	50 ¹ / ₂	9.36	30 ⁵ / ₈ x51 ¹ / ₂	53 ³ / ₈	3-4	1,950	684.00
S-28-8	84	67 ¹ / ₁₆	50 ¹ / ₂	10.92	30 ⁵ / ₈ x59 ¹ / ₂	53 ³ / ₈	3-4	2,275	781.00
S-36-5	69 ³ / ₄	76 ¹ / ₄	60	9.12	38 ¹⁵ / ₁₆ x40 ³ / ₄	60 ³ / ₄	2-5	2,100	730.00
S-36-6	78 ⁷ / ₈	76 ¹ / ₄	60	11.40	38 ¹⁵ / ₁₆ x49 ⁷ / ₈	60 ³ / ₄	2-5	2,625	845.00
S-36-7	88	76 ¹ / ₄	60	13.68	38 ¹⁵ / ₁₆ x59	60 ³ / ₄	3-5	3,150	960.00
S-36-8	97 ¹ / ₈	76 ¹ / ₄	60	15.96	38 ¹⁵ / ₁₆ x68 ⁷ / ₈	60 ³ / ₄	3-5	3,675	1,075.00
S-36-9	106 ¹ / ₄	76 ¹ / ₄	60	18.24	38 ¹⁵ / ₁₆ x77 ¹ / ₄	60 ³ / ₄	4-5	4,200	1,190.00

IDEAL SECTIONAL WATER BOILER, PLATE 3433 N

Size No.	Total Length, Inches	Grate Area, Inches	Ash Pit, Inside, Inches	*Outlets, No. and Size	Ratings, Sq. ft.	Price, Complete
W-15-4	40 ⁷ / ₈	1.95	20 ¹⁵ / ₁₆ x21 ⁵ / ₈	2-3	500	\$ 147.00
W-15-5	47 ¹ / ₈	2.60	20 ¹⁵ / ₁₆ x27 ¹³ / ₁₆	2-3	700	200.00
W-15-6	53 ³ / ₈	3.25	20 ¹⁵ / ₁₆ x34	2-3	900	235.00
W-19-5	51 ³ / ₄	3.32	20 x29 ¹⁵ / ₁₆	2-3	1,000	249.00
W-19-6	58 ³ / ₈	4.15	20 x36 ⁵ / ₈	2-3	1,250	315.00
W-19-7	65	4.98	20 x43 ⁵ / ₁₆	3-3	1,500	360.00
W-22-5	53 ¹ / ₄	4.08	23 ¹ / ₈ x31 ¹³ / ₁₆	2-4	1,300	330.00
W-22-6	60 ¹ / ₄	5.10	23 ¹ / ₈ x38 ⁷ / ₈	2-4	1,650	390.00
W-22-7	67 ¹ / ₄	6.12	23 ¹ / ₈ x45 ¹⁵ / ₁₆	3-4	2,000	450.00
W-25-5	59 ¹ / ₄	5.44	28 x35 ³ / ₁₆	2-4	1,825	420.00
W-25-6	66 ⁷ / ₈	6.80	28 x42 ⁷ / ₈	2-4	2,225	495.00
W-25-7	74 ¹ / ₂	8.16	28 x50 ⁹ / ₁₆	3-4	2,650	570.00
W-25-8	82 ¹ / ₄	9.52	28 x58 ¹ / ₄	3-4	3,050	645.00
W-28-5	60	6.24	30 ⁵ / ₈ x35 ¹ / ₂	2-4	2,150	480.00
W-28-6	68	7.80	30 ⁵ / ₈ x43 ¹ / ₂	2-4	2,675	577.00
W-28-7	76	9.36	30 ⁵ / ₈ x51 ¹ / ₂	3-4	3,200	674.00
W-28-8	84	10.92	30 ⁵ / ₈ x59 ¹ / ₂	3-4	3,725	761.00
W-36-5	69 ³ / ₄	9.12	38 ¹⁵ / ₁₆ x40 ³ / ₄	2-5	3,450	710.00
W-36-6	78 ⁷ / ₈	11.40	38 ¹⁵ / ₁₆ x49 ⁷ / ₈	2-5	4,325	825.00
W-36-7	88	13.68	38 ¹⁵ / ₁₆ x59	3-5	5,200	940.00
W-36-8	97 ¹ / ₈	15.96	38 ¹⁵ / ₁₆ x68 ⁷ / ₈	3-5	6,050	1,055.00
W-36-9	106 ¹ / ₄	18.24	38 ¹⁵ / ₁₆ x77 ¹ / ₄	4-5	6,925	1,170.00

*For each outlet there are two inlets of same size—one on each side.



3434 N

IDEAL SECTIONAL STEAM BOILER, PLATE 3434 N

Number	S-48-6	S-48-7	S-48-8	S-48-9	S-48-10
Total height, inches	97	97	97	97	97
Total width, inches	80	80	80	80	80
Total length, inches	92	102¾	113½	124¼	135
Grate area, square feet.....	18.00	21.60	25.20	28.80	32.40
Water line inches.....	72	72	72	72	72
Outlets, inches	2-6	2-6	3-6	3-6	3-6
Ash pit (inside), inches.....	52x54½	52x65¼	52x76	52x86¾	52x97½
Ratings, square feet.....	5,275	6,300	7,325	8,350	9,375
Price, complete	\$1,395.00	\$1,600.00	\$1,805.00	\$2,010.00	\$2,215.00



3435 N

IDEAL SECTIONAL WATER BOILER, PLATE 3435 N

Number	W-48-6	W-48-7	W-48-8	W-48-9	W-48-10
Total length, inches	92	102¾	113½	124¼	135
Grate area, square feet.....	18.00	21.60	25.20	28.80	32.40
Outlets, inches	2-6	2-6	3-6	3-6	3-6
Ash pit (inside), inches.....	52x54½	52x65¼	52x76	52x86¾	52x97½
Ratings, square feet.....	8,700	10,375	12,050	13,725	15,400
Price, complete	\$1,375.00	\$1,580.00	\$1,785.00	\$1,990.00	\$2,195.00



3436 N



3437 N

IDEAL SMOKELESS DOWN-DRAFT STEAM BOILER, PLATE 3436 N

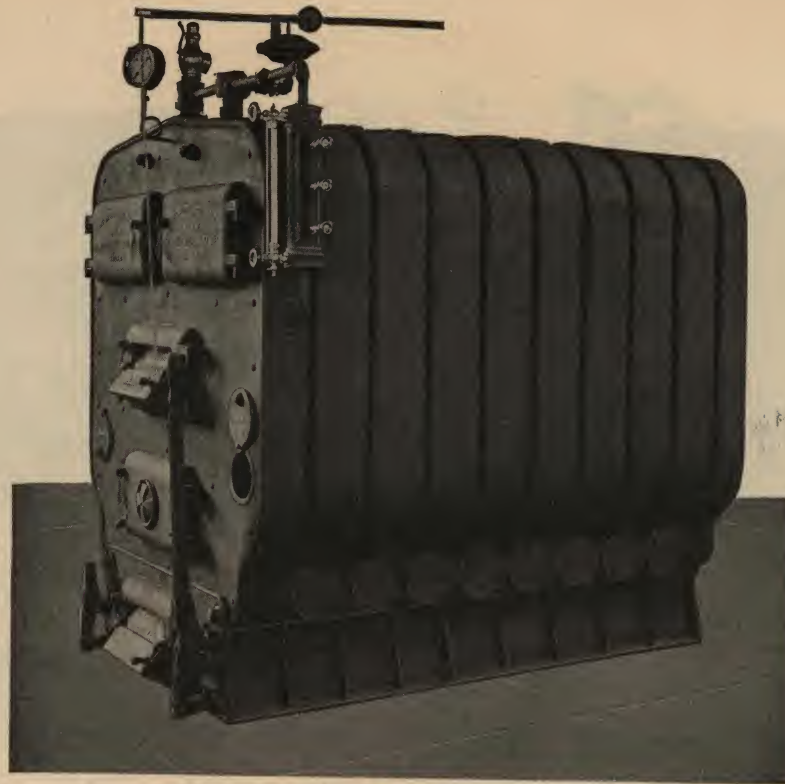
No.	Height with Trimmings, Inches	Width with Trimmings, Inches	Total Length, Inches	Water Grate Area, Sq. Ft.	Free Air Area Through Grate, Sq. Ft.	Water Line Inches	*Outlets, Inches	Size of Chimney Flue, Inches	Height of Chimney Flue, Feet	Ratings, Sq. ft.	Price, Complete
364-S	69	47 $\frac{1}{4}$	66 $\frac{7}{8}$	5.46	2.56	54 $\frac{7}{16}$	2-4	12x12	40	1,500	\$ 550.00
374-S	69	47 $\frac{1}{4}$	74 $\frac{9}{16}$	7.33	3.40	54 $\frac{7}{16}$	2-4	12x12	50	1,800	640.00
384-S	69	47 $\frac{1}{4}$	82 $\frac{1}{4}$	9.19	4.25	54 $\frac{7}{16}$	3-4	12x12	50	2,100	730.00
394-S	69	47 $\frac{1}{4}$	89 $\frac{15}{16}$	9.19	4.25	54 $\frac{7}{16}$	3-4	12x16	60	2,400	820.00
3104-S	69	47 $\frac{1}{4}$	97 $\frac{5}{8}$	11.07	5.10	54 $\frac{7}{16}$	3-4	12x16	60	2,700	910.00
468-S	76 $\frac{1}{4}$	60	78 $\frac{7}{8}$	8.8	3.96	60 $\frac{3}{4}$	2-5	16x16	50	3,000	944.00
478-S	76 $\frac{1}{4}$	60	88	11.8	5.31	60 $\frac{3}{4}$	2-5	16x16	50	3,500	1,044.00
488-S	76 $\frac{1}{4}$	60	97 $\frac{1}{8}$	14.8	6.66	60 $\frac{3}{4}$	3-5	16x16	60	4,000	1,144.00
498-S	76 $\frac{1}{4}$	60	106 $\frac{1}{4}$	14.8	6.66	60 $\frac{3}{4}$	3-5	16x16	70	4,500	1,244.00
4108-S	76 $\frac{1}{4}$	60	115 $\frac{3}{8}$	17.8	8.00	60 $\frac{3}{4}$	3-5	20x20	70	5,000	1,344.00
4118-S	76 $\frac{1}{4}$	60	124 $\frac{1}{2}$	17.8	8.00	60 $\frac{3}{4}$	3-5	24x24	80	5,500	1,444.00
4128-S	76 $\frac{1}{4}$	60	133 $\frac{5}{8}$	20.8	9.35	60 $\frac{3}{4}$	3-5	24x24	80	6,000	1,544.00
670-S	97	80	102 $\frac{3}{4}$	17.2	7.8	72	3-6	24x24	65	6,300	1,604.00
680-S	97	80	113 $\frac{1}{2}$	21.5	9.9	72	3-6	24x24	75	7,200	1,784.00
690-S	97	80	124 $\frac{1}{4}$	25.8	11.7	72	3-6	24x28	75	8,100	1,964.00
6100-S	97	80	135	25.8	11.7	72	4-6	28x28	80	9,000	2,144.00
6110-S	97	80	145 $\frac{3}{4}$	30.1	13.7	72	4-6	30x30	85	9,900	2,324.00
6120-S	97	80	156 $\frac{1}{2}$	30.1	13.7	72	4-6	30x30	90	10,800	2,504.00

*For each outlet there are two inlets—one on each side of boiler; sizes 670 to 6120, inclusive, have four inlets, two being on rear section.

IDEAL SMOKELESS DOWN-DRAFT WATER BOILER, PLATE 3437 N

No.	Height to Top of Outlet, Inches	Width, Inches	Total Length, Inches	Water Grate Area, Sq. Ft.	Free Air Area Through Grate, Sq. Ft.	*Inlets, Inches	*Outlets, Inches	Size of Chimney Flue, Inches	Height of Chimney Flue, Feet	Ratings, Sq. Ft.	Price, Complete
364-W	62 $\frac{3}{4}$	40 $\frac{3}{8}$	66 $\frac{7}{8}$	5.46	2.56	4-4	2-4	12x12	40	2,450	\$ 540.00
374-W	62 $\frac{3}{4}$	40 $\frac{3}{8}$	74 $\frac{9}{16}$	7.33	3.40	4-4	2-4	12x12	50	2,950	627.50
384-W	62 $\frac{3}{4}$	40 $\frac{3}{8}$	82 $\frac{1}{4}$	9.19	4.25	6-4	3-4	12x12	50	3,450	715.00
394-W	62 $\frac{3}{4}$	40 $\frac{3}{8}$	89 $\frac{15}{16}$	9.19	4.25	6-4	3-4	12x16	60	3,950	802.50
3104-W	62 $\frac{3}{4}$	40 $\frac{3}{8}$	97 $\frac{5}{8}$	11.07	5.10	6-4	3-4	12x16	60	4,450	890.00
468-W	69 $\frac{1}{8}$	53 $\frac{1}{4}$	78 $\frac{7}{8}$	8.8	3.96	4-5	2-5	16x16	50	4,800	924.00
478-W	69 $\frac{1}{8}$	53 $\frac{1}{4}$	88	11.8	5.31	4-5	2-5	16x16	50	5,600	1,024.00
488-W	69 $\frac{1}{8}$	53 $\frac{1}{4}$	97 $\frac{1}{8}$	14.8	6.66	6-5	3-5	16x16	60	6,400	1,124.00
498-W	69 $\frac{1}{8}$	53 $\frac{1}{4}$	106 $\frac{1}{4}$	14.8	6.66	6-5	3-5	16x16	70	7,200	1,224.00
4108-W	69 $\frac{1}{8}$	53 $\frac{1}{4}$	115 $\frac{3}{8}$	17.8	8.00	6-5	3-5	20x20	70	8,000	1,324.00
4118-W	69 $\frac{1}{8}$	53 $\frac{1}{4}$	124 $\frac{1}{2}$	17.8	8.00	6-5	3-5	24x24	80	8,800	1,424.00
4128-W	69 $\frac{1}{8}$	53 $\frac{1}{4}$	133 $\frac{5}{8}$	20.8	9.35	6-5	3-5	24x24	80	9,600	1,524.00
670-W	81 $\frac{3}{4}$	68	102 $\frac{3}{4}$	17.2	7.8	†4-6	3-6	24x24	65	10,000	1,584.00
680-W	81 $\frac{3}{4}$	68	113 $\frac{1}{2}$	21.5	9.9	†4-6	3-6	24x24	75	11,500	1,764.00
690-W	81 $\frac{3}{4}$	68	124 $\frac{1}{4}$	25.8	11.7	†4-6	3-6	24x28	75	13,000	1,944.00
6100-W	81 $\frac{3}{4}$	68	135	25.8	11.7	†4-6	4-6	28x28	80	14,400	2,124.00
6110-W	81 $\frac{3}{4}$	68	145 $\frac{3}{4}$	30.1	13.7	†4-6	4-6	30x30	85	15,800	2,304.00
6120-W	81 $\frac{3}{4}$	68	156 $\frac{1}{2}$	30.1	13.7	†4-6	4-6	30x30	90	17,300	2,484.00

*On sizes 364-W to 4128-W for each outlet there are two inlets—one on each side of boiler. †Two outlets are on rear section.



3438 N

THE CRIPPS COMBINATION DOWN-DRAFT HEATERS, PLATE 3438 N
For Steam.

No. of Heater	Square Feet Direct Radiation	List Price	Grate Dimensions, Inches	Height of Water Line, Inches	Height of Boiler, Inches	Length of Boiler Over All, Inches	Width of Boiler, Inches	Height of Steam Trimmings, Inches	Size of Smoke Pipe, Inches
250	1,250	\$ 470.00	Upper, 20x30 Lower, 20x30	57	65	60	37	78	12
260	1,550	550.00	Upper, 20x37 Lower, 20x37	57	65	68	37	78	12
270	1,850	640.00	Upper, 20x45 Lower, 20x45	57	65	76	37	78	12
280	2,150	730.00	Upper, 20x53 Lower, 20x53	57	65	82	37	78	12
360	2,400	820.00	Upper, 26x46 Lower, 30x46	61	70	66	48	82	12
370	2,700	910.00	Upper, 26x54 Lower, 30x54	61	70	75	48	82	14
380	3,000	944.00	Upper, 26x62 Lower, 30x62	61	70	83	48	82	14
390	3,500	1,044.00	Upper, 26x72 Lower, 30x72	61	70	93	48	82	14
366	4,000	1,144.00	Upper, 36x46 Lower, 36x46	68	80	67	63	92	16
3100	4,500	1,244.00	Upper, 26x80 Lower, 30x80	61	70	101	48	82	14
376	5,000	1,344.00	Upper, 36x54 Lower, 36x54	68	80	75	63	92	16
386	5,600	1,464.00	Upper, 36x62 Lower, 36x62	68	80	83	63	92	16
396	6,400	1,604.00	Upper, 36x71 Lower, 36x71	68	80	92	63	92	18
3106	7,200	1,784.00	Upper, 36x80 Lower, 36x80	68	80	101	63	92	18
3116	8,100	1,964.00	Upper, 36x89 Lower, 36x89	68	80	110	63	92	18
3126	9,000	2,144.00	Upper, 36x98 Lower, 36x98	68	80	119	63	92	18
3136	9,900	2,324.00	Upper, 36x107 Lower, 36x107	68	80	128	63	92	18

Boilers are usually tapped as specified, otherwise we make the tappings according to the size boiler, from three to five inches, each flow having a corresponding return.

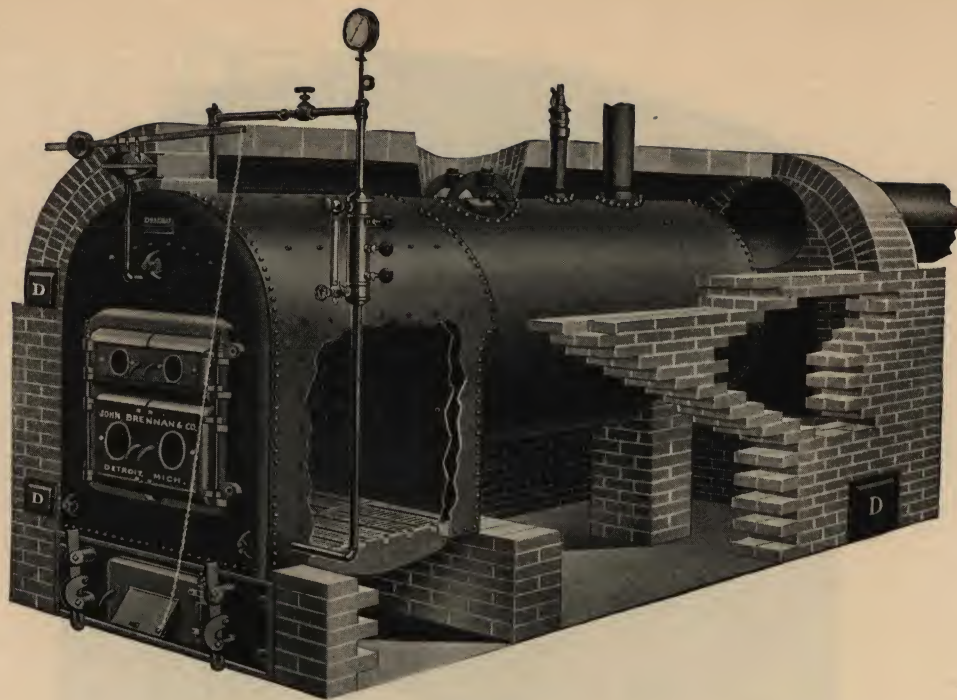


3438 AN

Open View

THE CRIPPS COMBINATION DOWN-DRAFT HEATERS, PLATE 3438 AN
For Water.

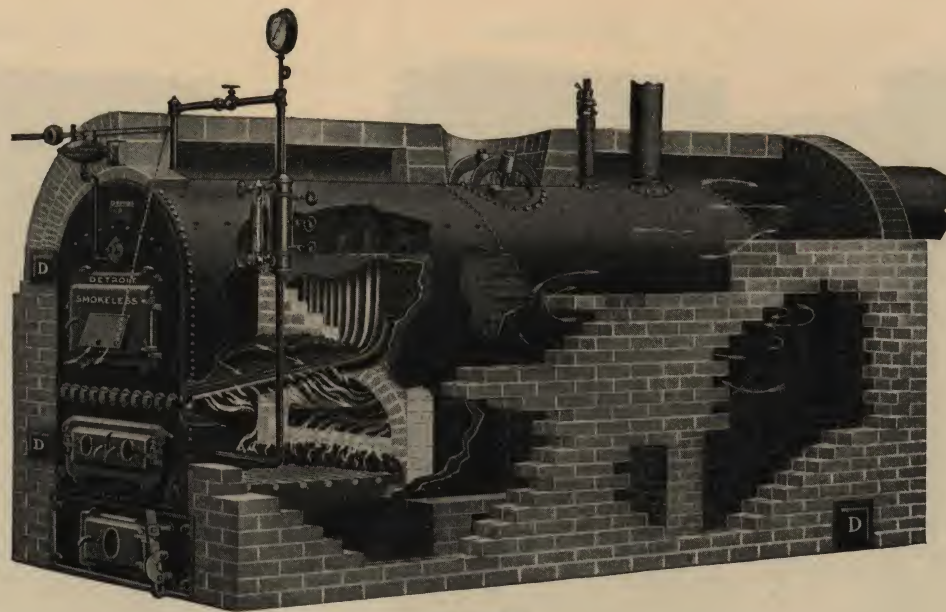
No. of Heater	Square Feet Direct Radiation	List Price	Grate Dimensions, Inches	Height of Boiler, Inches	Length of Boiler Over All, Inches	Width of Boiler, Inches	Size of Smoke Pipe, Inches
250	2,000	\$ 460.00	Upper, 20x30 Lower, 20x30	65	60	37	12
260	2,450	540.00	Upper, 20x37 Lower, 20x37	65	68	37	12
270	2,950	627.50	Upper, 20x45 Lower, 20x45	65	76	37	12
280	3,450	715.00	Upper, 20x53 Lower, 20x53	65	82	37	12
360	3,950	802.50	Upper, 26x46 Lower, 30x46	70	66	48	12
370	4,450	890.00	Upper, 26x54 Lower, 30x54	70	75	48	14
380	4,800	924.00	Upper, 26x62 Lower, 30x62	70	83	48	14
390	5,600	1,024.00	Upper, 26x72 Lower, 30x72	70	93	48	14
366	6,400	1,124.00	Upper, 36x46 Lower, 36x46	80	67	63	16
3100	7,200	1,224.00	Upper, 26x80 Lower, 30x80	70	101	48	14
376	8,000	1,324.00	Upper, 36x54 Lower, 36x54	80	75	63	16
386	8,800	1,444.00	Upper, 36x62 Lower, 36x62	80	83	63	16
396	10,000	1,584.00	Upper, 36x71 Lower, 36x71	80	92	63	18
3106	11,500	1,764.00	Upper, 36x80 Lower, 36x80	80	101	63	18
3116	13,000	1,944.00	Upper, 36x89 Lower, 36x89	80	110	63	18
3126	14,400	2,124.00	Upper, 36x98 Lower, 36x98	80	119	63	18
3136	15,800	2,304.00	Upper, 36x107 Lower, 36x107	80	128	63	18



3450 N

DETROIT FIREBOX BOILER, PLATE 3450 N

Number	00	0	1	2	3	4	5	6	7	8	9
Steam boiler, castings and tools.	\$255.00	\$270.00	\$285.00	\$300.00	\$320.00	\$375.00	\$400.00	\$435.00	\$460.00	\$510.00	\$560.00
Steam trimmings	18.00	18.00	18.00	18.00	19.00	19.00	19.00	19.00	23.00	23.00	23.00
Water boiler, castings and tools.	\$265.00	\$280.00	\$295.00	\$310.00	\$330.00	\$390.00	\$415.00	\$450.00	\$475.00	\$525.00	\$575.00
Capacity steam, square feet....	500	700	900	1,000	1,200	1,400	1,700	2,000	2,200	2,500	3,000
Capacity water, square feet....	800	1,100	1,500	1,600	2,000	2,300	2,800	3,300	3,600	4,100	4,900
Heating surface, square feet....	74	98	116	131	145	190	224	260	257	299	344
Weight of boiler and castings..	1,900	2,300	2,450	2,750	3,150	3,450	3,850	4,350	4,500	5,000	5,650
Length boiler over all, feet....	5½	7½	6½	7½	8½	7½	9	10½	8½	10	11½
Height from floor to top of brick work, inches.....	64	64	70	70	70	77	77	77	83	83	83
Height of water line, inches....	48	48	53	53	53	59	59	59	61	61	61
Diameter boiler, inches.....	24	24	30	30	30	36	36	36	42	42	42
Height of firebox, inches.....	30	30	36	36	36	41	41	41	43	43	43
Width of firebox, inches.....	19	19	24	24	24	30	30	30	36	36	36
Length of firebox, inches.....	20	26	26	32	38	32	38	44	38	44	50
Depth of water leg, inches.....	15	15	15	15	15	15	15	15	15	15	15
Number	10	11	12	13	14	15	16	17	18	19	20
Steam boiler, castings and tools..	\$630.00	\$680.00	\$735.00	\$860.00	\$935.00	\$1,200.00	\$1,310.00	\$1,500.00	\$1,600.00	\$1,800.00	\$2,000.00
Steam trimmings	23.00	23.00	28.00	28.00	28.00	40.00	40.00	40.00	40.00	44.00	44.00
Water boiler, castings and tools..	\$643.00	\$695.00	\$755.00	\$880.00	\$955.00	\$1,225.00	\$1,335.00	\$1,530.00	\$1,630.00	\$1,840.00	\$2,040.00
Capacity steam, square feet....	3,500	4,000	4,500	5,200	6,200	7,000	8,500	9,500	10,500	11,500	13,000
Capacity water, square feet....	5,700	6,500	7,300	8,500	10,100	11,400	14,000	15,500	17,100	18,700	21,200
Heating surface, square feet....	390	442	495	585	700	733	862	971	1,097	1,167	1,325
Weight of boiler and castings...	6,650	7,350	8,000	9,100	10,250	14,000	15,250	16,800	18,400	20,000	22,000
Length boiler over all, feet....	10½	12	13½	14	16½	15½	18	16	18	16	18
Height from floor to top of brick work, inches.....	90	90	90	96	96	108	108	114	114	120	120
Height of water line, inches....	65	65	65	67	67	75	75	80	80	85	85
Diameter boiler, inches.....	48	48	48	54	54	60	60	66	66	72	72
Height of firebox, inches.....	47	47	47	49	49	54	54	59	59	64	64
Width of firebox, inches.....	42	42	42	48	48	54	54	60	60	66	66
Length of firebox, inches.....	44	50	56	56	62	62	58	62	68	68	74
Depth of water leg, inches.....	15	15	15	15	15	16	16	16	16	16	16
Extras and Changes—Add to Above List											
Number	00	0	1	2	3	4	5	6	7	8	9
For longer shell, each foot or fraction of a foot.....	\$11.00	\$11.00	\$15.00	\$15.00	\$15.00	\$19.00	\$19.00	\$19.00	\$23.00	\$23.00	\$23.00
For longer firebox, including grate, each six inches.....	15.00	15.00	20.00	20.00	20.00	25.00	25.00	25.00	30.00	30.00	30.00
Wrought iron space rings and extra stays and braces for 100 pounds working pressure....	30.00	30.00	33.00	33.00	34.00	36.00	37.00	38.00	42.00	45.00	47.00
Rear flue clean-out doors and frame	12.00	12.00	12.00	12.00	12.00	16.00	16.00	16.00	18.00	18.00	18.00
Number	10	11	12	13	14	15	16	17	18	19	20
For longer shell, each foot or fraction of a foot.....	\$32.00	\$32.00	\$32.00	\$40.00	\$40.00	\$50.00	\$50.00	\$60.00	\$60.00	\$70.00	\$70.00
For longer firebox, including grate, each six inches.....	40.00	40.00	40.00	45.00	45.00	55.00	55.00	65.00	65.00	80.00	80.00
Wrought iron space rings and extra stays and braces for 100 pounds working pressure....	50.00	52.00	53.00	66.00	71.00	80.00	85.00	90.00	95.00	105.00	110.00
Rear flue clean-out doors and frame	22.00	22.00	22.00	26.00	26.00	32.00	32.00	38.00	38.00	46.00	46.00
Boilers No. 00 to No. 9 have grates in one section.						Boilers No. 10 to No. 20 have grates in two sections.					
Openings in firebox for coil, \$4.00 list per boiler.											



3451 N

DETROIT SMOKELESS FIREBOX BOILER, PLATE 3451 N

Number	104	105	106	107	108	109	110	111	112
Steam boiler with castings and tools	\$590.00	\$620.00	\$654.00	\$710.00	\$770.00	\$840.00	\$940.00	\$1,000.00	\$1,064.00
Steam trimmings	20.00	20.00	20.00	24.00	24.00	24.00	24.00	24.00	30.00
Water boiler with castings and tools	\$605.00	\$635.00	\$670.00	\$725.00	\$785.00	\$855.00	\$955.00	\$1,015.00	\$1,084.00
Capacity, steam, square feet	1,600	1,900	2,200	2,500	2,900	3,300	3,800	4,400	5,000
Capacity, water, square feet	2,600	3,100	3,600	4,100	4,700	5,300	6,200	7,200	8,200
Heating surface, square feet	182	213	249	252	291	335	387	449	492
Square feet of steam capacity as rated for each square foot of heating surface	8.8	8.9	8.8	9.9	9.9	9.9	9.8	9.8	10.0
Weight of boiler and castings, pounds	4,800	5,200	5,700	6,100	6,700	7,200	8,400	9,100	9,800
Length boiler over all, feet, inches	8-7	10-2	11.7	9-10	11-4	12-11	12-4	13-10	15-4
Height from floor to top of brick work, inches	76	76	76	82	82	82	89	89	89
Height of water line, inches	59	59	59	61	61	61	65	65	65
Diameter of boiler, inches	36	36	36	42	42	42	48	48	48
Height of firebox, inches	41	41	41	43	43	43	47	47	47
Width of firebox, inches	30	30	30	36	36	36	42	42	42
Length of firebox, inches	45	51	57	54	60	66	66	72	78
Depth of water leg, inches	15	15	15	15	15	15	15	15	15
Number	113	114	115	116	117	118	119	120	
Steam boiler with castings and tools	\$1,300.00	\$1,400.00	\$1,700.00	\$1,850.00	\$2,050.00	\$2,260.00	\$2,550.00	\$2,800.00	
Steam trimmings	30.00	30.00	40.00	40.00	40.00	40.00	44.00	44.00	
Water boiler with castings and tools	\$1,320.00	\$1,420.00	\$1,725.00	\$1,875.00	\$2,080.00	\$2,290.00	\$2,590.00	\$2,840.00	
Capacity, steam, square feet	5,800	7,000	8,200	9,500	10,500	12,000	13,000	15,000	
Capacity, water, square feet	9,500	11,400	13,400	15,500	17,000	19,600	21,000	24,500	
Heating surface, square feet	580	692	735	862	968	1,092	1,155	1,310	
Square feet of steam capacity as rated for each square foot of heating surface	10.0	10.1	11-1	11-0	10-8	11.0	11-2	11-4	
Weight of boiler and castings, pounds	12,300	13,600	16,000	17,400	19,400	21,000	22,400	24,300	
Length boiler over all, feet, inches	15-10	18-4	17-10	20-4	18-4	20-4	18-4	20-4	
Height from floor to top of brick work, inches	95	95	107	107	113	113	119	119	
Height of water line, inches	67	67	75	75	80	80	86	86	
Diameter of boiler, inches	54	54	60	60	66	66	72	72	
Height of firebox, inches	49	49	54	54	59	59	64	64	
Width of firebox, inches	48	48	54	54	60	60	66	66	
Length of firebox, inches	78	84	90	96	90	96	96	102	
Depth of water leg, inches	15	15	16	16	16	16	16	16	

Extras and Changes—Add to Above List

Number	104	105	106	107	108	109	110	111	112
For longer shell, each foot or fraction of a foot	\$19.00	\$19.00	\$19.00	\$23.00	\$23.00	\$23.00	\$32.00	\$32.00	\$32.00
Wrought iron space rings and extra stays and braces for 100 pounds working pressure	68.00	70.00	72.00	78.00	82.00	86.00	92.00	96.00	100.00
Number	113	114	115	116	117	118	119	120	
For longer shell, each foot or fraction of a foot	\$ 40.00	\$40.00	\$50.00	\$50.00	\$60.00	\$60.00	\$70.00	\$70.00	
Wrought iron space rings and extra stays and braces for 100 pounds working pressure	115.00	125.00	90.00	100.00	105.00	115.00	125.00	135.00	

Regular boilers larger than No. 114 made with wrought iron mud rings.
 Boilers No. 104 to 110 have grates in one section.
 Boilers No. 110 to 120 have grates in two sections.
 Openings in firebox for coil, \$4.00 list per boiler.



Two Column



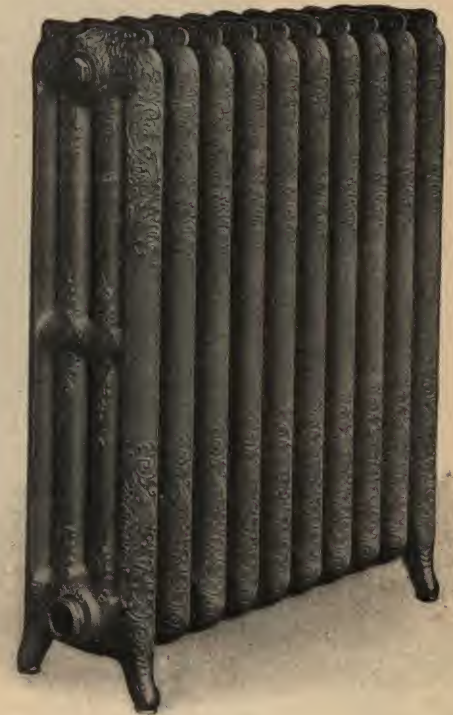
3452 N

Three Column



3453 N

Four Column



3454 N

ROCOCO RADIATORS, PLATE 3452 N TO PLATE 3454 N

(For Steam or Water.)

Single Column.

Height, inches	38	32	26	23	20
Square feet per section.....	3	2½	2	1⅔	1½
Per square foot.....	\$.035	\$.038	\$.042	\$.044	\$.048

Width of legs, 5½ inches. Length per section, 2½ inches.

Two Column

Height, inches	45	38	32	26	23	20
Square feet per section.....	5	4	3⅓	2⅔	2⅓	2
Per square foot.....	\$.035	\$.035	\$.038	\$.042	\$.044	\$.048

Width of legs, 8½ inches. Length per section, 2½ inches.

Three Column

Height, inches	45	38	32	26	23	20
Square feet per section.....	6	5	4½	3¾	3	2¼
Per square foot.....	\$.035	\$.035	\$.038	\$.042	\$.044	\$.048

Width of legs, 10 inches. Length per section, 2½ inches.

Four Column

Height, inches	45	38	32	26	23	20
Square feet per section.....	10	8	6½	5	4	3
Per square foot.....	\$.035	\$.035	\$.038	\$.042	\$.044	\$.048

Width of legs, 11¼ inches. Length per section, 3 inches.

Tappings 2 inches and bushed to requirements, add ½ inch to length for each bushing.



Two Column



3455 N

Three Column



3456 N

Four Column



3457 N

PEERLESS RADIATORS, PLATE 3455 N TO PLATE 3457 N

(For Steam or Water.)

Single Column.

Height, inches	38	32	26	23	20
Square feet per section.....	3	2½	2	1⅔	1½
Per square foot.....	\$0.35	\$0.38	\$0.42	\$0.44	\$0.48

Width of legs, 5½ inches. Length per section, 2½ inches.

Two Column

Height, inches	45	38	32	26	23	20	*15
Square feet per section.....	5	4	3⅓	2⅔	2⅓	2	1½
Per square foot.....	\$0.35	\$0.35	\$0.38	\$0.42	\$0.44	\$0.48	\$0.53

Width of legs, 8½ inches. Length per section, 2½ inches.

*15-inch height is made for steam only.

Three Column

Height, inches	45	38	32	26	22	18
Square feet per section.....	6	5	4½	3¾	3	2¼
Per square foot.....	\$0.35	\$0.35	\$0.38	\$0.42	\$0.45	\$0.50

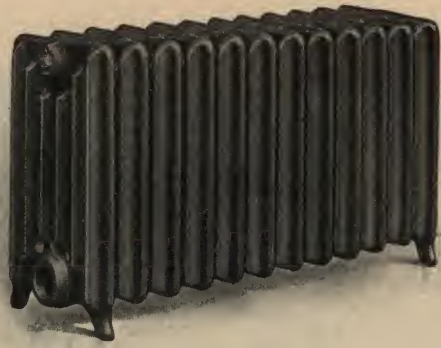
Width of legs, 10 inches. Length per section, 2½ inches.

Four Column

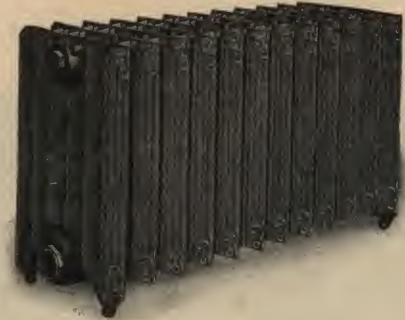
Height, inches	45	38	32	26	22	18
Square feet per section.....	10	8	6½	5	4	3
Per square foot.....	\$0.35	\$0.35	\$0.38	\$0.42	\$0.45	\$0.50

Width of legs, 11¼ inches. Length per section, 3 inches.

Tappings 2 inches and bushed to requirements, add ½ inch to length for each bushing.



3458 N



3459 N

ROCOCO WINDOW RADIATOR, PLATE 3458 N
(For Steam or Water.)

Height, inches	20	16	13
Square feet per section.....	5	3 ³ / ₄	3
Per square foot.....	\$0.48	\$0.52	\$0.55

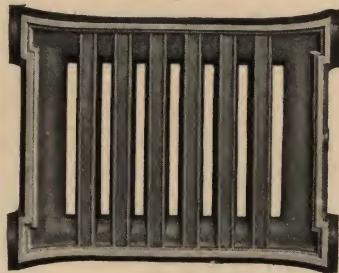
Width of each section, 12½ inches. Length per section, 3 inches.

AETNA FLUE WINDOW RADIATOR, PLATE 3459 N
(For Steam or Water.)

Height, inches	20	18	16	14	13
Square feet per section.....	6	5½	4 ² / ₃	4	3 ² / ₃
Per square foot.....	\$0.48	\$0.50	\$0.52	\$0.54	\$0.55

Width of each section, 12½ inches. Length per section, 3 inches.
Tappings 2 inches and bushed to requirements, add ½ inch to length for each bushing.

5-A



3460 N

7-A



3461 N

9-A



3462 N

ROCOCO WALL RADIATORS, PLATE 3460 N TO PLATE 3462 N
(For Steam or Water.)

Number	5-A	7-A	7-B	9-A	9-B
Height, inches	13 ⁵ / ₁₆	13 ⁵ / ₁₆	21 ⁷ / ₈	13 ⁵ / ₁₆	29 ¹ / ₁₆
Heating surface, square feet.....	5	7	7	9	9
Length or width, inches.....	16 ⁵ / ₈	21 ⁷ / ₈	13 ⁵ / ₁₆	29 ¹ / ₁₆	13 ⁵ / ₁₆
Thickness, inches	2 ⁷ / ₈	2 ⁷ / ₈	3 ¹ / ₁₆	2 ⁷ / ₈	3 ¹ / ₁₆
Thickness with bracket, inches.....	3½	3½	3 ¹¹ / ₁₆	3½	3 ¹¹ / ₁₆
Per square foot.....	\$0.41	\$0.38	\$0.38	\$0.38	\$0.38



3463 N



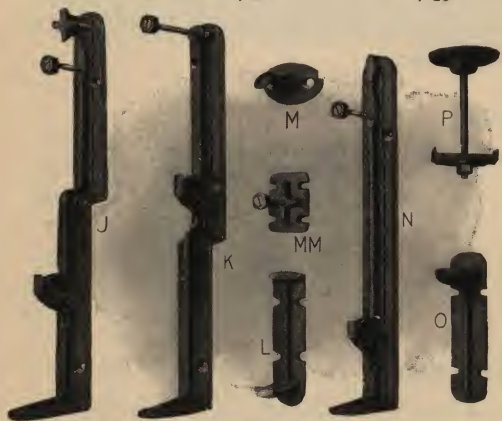
3464 N

PORTABLE VENTILATING BOX BASES, PLATE 3463 N

Base section	Single column		Floor openings, inches Two or three column		Four column		Each
	Width	Length	Width	Length	Width	Length	
5	2 ¹³ / ₃₂	5 ²¹ / ₃₂	2 ¹³ / ₁₆	5 ⁹ / ₁₆	2 ²¹ / ₃₂	6 ²⁵ / ₃₂	\$ 5.00
6	2 ¹³ / ₃₂	7 ²⁵ / ₃₂	2 ¹³ / ₁₆	7 ⁹ / ₁₆	2 ²¹ / ₃₂	9 ²⁵ / ₃₂	6.00
7	2 ¹³ / ₃₂	10 ⁰ / ₃₂	2 ¹³ / ₁₆	10 ³ / ₃₂	2 ²¹ / ₃₂	12 ²⁵ / ₃₂	7.00
8	2 ¹³ / ₃₂	12 ²⁵ / ₃₂	2 ¹³ / ₁₆	12 ¹⁹ / ₃₂	2 ²¹ / ₃₂	15 ²⁵ / ₃₂	8.00
9	2 ¹³ / ₃₂	15 ¹¹ / ₃₂	2 ¹³ / ₁₆	15 ⁷ / ₃₂	2 ²¹ / ₃₂	18 ²³ / ₃₂	9.00
10	2 ¹³ / ₃₂	17 ²¹ / ₃₂	2 ¹³ / ₁₆	17 ²¹ / ₃₂	2 ²¹ / ₃₂	21 ¹⁹ / ₃₂	10.00
11	2 ¹³ / ₃₂	20 ⁵ / ₃₂	2 ¹³ / ₁₆	20 ⁵ / ₃₂	2 ²¹ / ₃₂	24 ⁹ / ₁₆	11.00
12	2 ¹³ / ₃₂	22 ¹⁹ / ₃₂	2 ¹³ / ₁₆	22 ¹⁹ / ₃₂	2 ²¹ / ₃₂	27 ⁹ / ₁₆	12.00
13	2 ¹³ / ₃₂	25 ⁵ / ₃₂	2 ¹³ / ₁₆	25 ³ / ₃₂	2 ²¹ / ₃₂	30 ⁹ / ₁₆	13.00
14	2 ¹³ / ₃₂	27 ¹⁹ / ₃₂	2 ¹³ / ₁₆	27 ¹⁹ / ₃₂	2 ²¹ / ₃₂	33 ⁹ / ₁₆	14.00
15	2 ¹³ / ₃₂	30 ¹ / ₁₆	2 ¹³ / ₁₆	30 ¹ / ₁₆	2 ²¹ / ₃₂	36 ⁹ / ₁₆	15.00

WALL BOXES, PLATE 3464 N

Size, inches 5x17½
Each \$2.80



3465 N



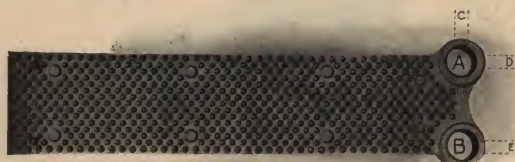
3466 N

WALL RADIATOR BRACKETS, PLATE 3465 N

J—No. 1— 9½ inches, each.. \$0.40	K—No. 3—12 inches, each.... \$0.40	M—Bracket, each \$0.10
J—No. 2— 7½ inches, each.. .36	K—No. 4—10 inches, each.... .38	MM—Bracket, each ..... .10
J—No. 3— 5½ inches, each.. .30	K—No. 5— 8 inches, each.... .36	N—Bracket, each ..... .30
K—No. 1—16 inches, each.. .44	K—No. 6— 6 inches, each.... .34	O—Bracket, each ..... .10
K—No. 2—14 inches, each.. .42	L—Bracket, each ..... .10	P—Bracket, each ..... .25

RADIATOR PEDESTAL, PLATE 3466 N

Height, inches	½ and 1	1½	2 and 2½	3 and 3½	4 and 4½	5
Each	\$0.10	\$0.14	\$0.20	\$0.24	\$0.30	\$0.32



3467 N



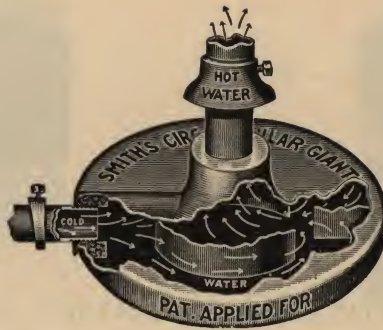
3468 N

PERFECTION PIN INDIRECT RADIATORS, PLATE 3467 N AND PLATE 3468 N
(For Steam or Water.)

	Length, inches	Height, inches	Height at connecting point, inches	Width in stack, inches	Heating surface, square feet	Per square foot
Plate 3467 N—Standard size section.....	36¼	7½	9 ¹³ / ₁₆	2¾	10	\$0.25
Plate 3468 N—Extra large size section.....	36¼	11½	14	2⅞	15	.25



3469 N



3470 N



3471 N

KONGCO HEATING STOVE, PLATE 3469 N

Number	1	2	3	4	5
Diameter grate, inches	9	10	8 1/4	9 3/4	12
Weight, pounds	290	410	550	1,100	1,500
Each	\$30.00	\$36.00	\$45.00	\$66.50	\$80.00

CIRCULAR GIANT HEATER, PLATE 3470 N

Number	14	16	18	20	22	24
Diameter, inches	14	16	18	20	22	24
Size of pipe, inches	1 1/4	1 1/2	2	2	2 1/2	3
Capacity, square feet of radiation	75	100	150	200	250	300
Each	\$9.00	\$12.00	\$16.00	\$20.00	\$25.00	\$30.00

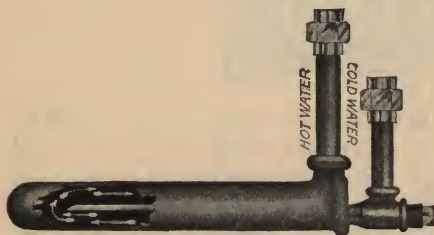
Two collars with set screws go with each Circular Giant.

LITTLE GIANT HEATER, PLATE 3471 N

Number	0	1	2	3
Height, inches	9	9	10 1/2	12
Width, inches	5	8	10	12
Size of pipe, inches	1	1 1/4	1 1/2	2
Between centers of pipe, inches	6 1/2	6 1/2	8 1/2	.....
Capacity, square feet of radiation	30	50	100	150
Each	\$6.00	\$7.50	\$9.00	\$12.00

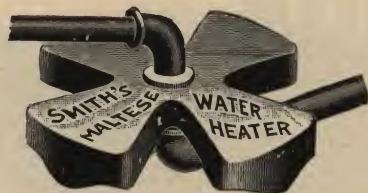
CLEANABLE TANK HEATER, PLATE 3472 N

By disconnecting the pipes at unions and filling heater with chemical solution, the lime can be dissolved in a few hours. Or, if desired, heater can be replaced with a new one in a few minutes. There is no other heater with which this can be done.

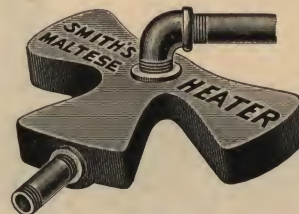


3472 N

Number	2	3	3 1/2	4
Length, inches	28	32	36	36
Outside diameter, inches	2	2 1/2	2 1/2	3
Tapped, inches	3/4	1	1	1 1/4
Capacity, gallons	30	40	40	60
Each	\$3.00	\$4.00	\$4.50	\$5.50



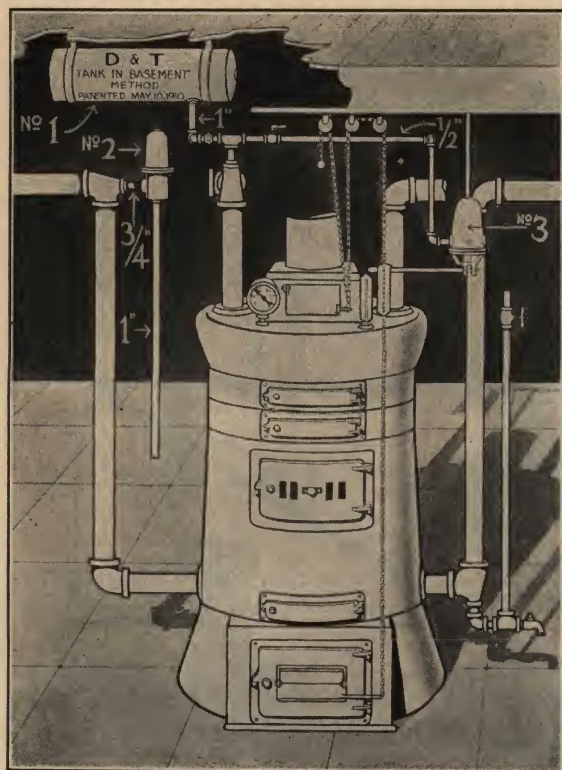
3473 N



3474 N

MALTESE HEATERS, PLATE 3473 N AND PLATE 3474 N

Number	9	12	15	18	21	24	27	30
Diameter, inches	9	12	15	18	21	24	27	30
Capacity radiation, square feet	30	50	75	100	150	200	250	300
Plate 3473 N—Full size, each	\$2.80	\$3.80	\$6.00	\$10.00	\$14.00	\$18.00	\$22.00	\$30.00
Plate 3474 N—Three-quarter size, each		3.30	5.00	8.00	12.00	16.00	20.00	27.00



THE D. & T. SELF-REGULATED HOT WATER HEATING METHOD, PLATE 3475 N

The D. & T. self-regulated hot water heating method is governed by reliable sources of expansion and contraction; performs its work persistently, promptly and efficiently without the aid of delicate thermostatic devices.

The D. & T. automatic damper regulator and circulator maintains a steady pressure of from one to ten pounds on the water in the entire system. This pressure is produced gradually, and maintained in exact relation to the heat required; approximately one pound of pressure is accumulated for every twenty-degree increase in temperature of the water, and is maintained at that point by automatically operating the dampers.

Any variation of pressure from one to ten pounds immediately varies the position of the lever, serving thus to regulate the dampers so as to form the exact pressure and temperature at all times.

The above advantages are found only in the D. & T. automatic regulator, which places the expansion tank in the basement and maintains an air cushion in said tank, which acts as a spring or pump and forces the water through the system.

3475 N

- No. 2 outfit, for one and two-story houses, radiation capacity 1,000 feet, each.....\$60.00
- No. 3 outfit, for three-story house, radiation capacity 1,400 feet, each..... 60.00
- No. 4 outfit, for four-story house, radiation capacity 2,500 feet, each..... 80.00

The number of the regulator is governed by the highest radiator in the building.

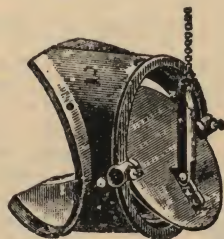
When ordering, state amount of square feet of radiation to be used.

Dampers.—There are still a few boiler manufacturers who use the straight lift draft door. This door is not only heavy, but owing to its construction always has more or less lost motion. When a boiler is equipped with a straight lift draft door we recommend that this door be removed and a balanced door be bolted on instead.

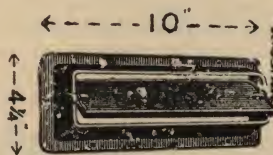
In ordering draft doors it is a good idea to make a templet of paper showing the full size of the opening covered by the straight lift door.



3476 N



3477 N



3478 N



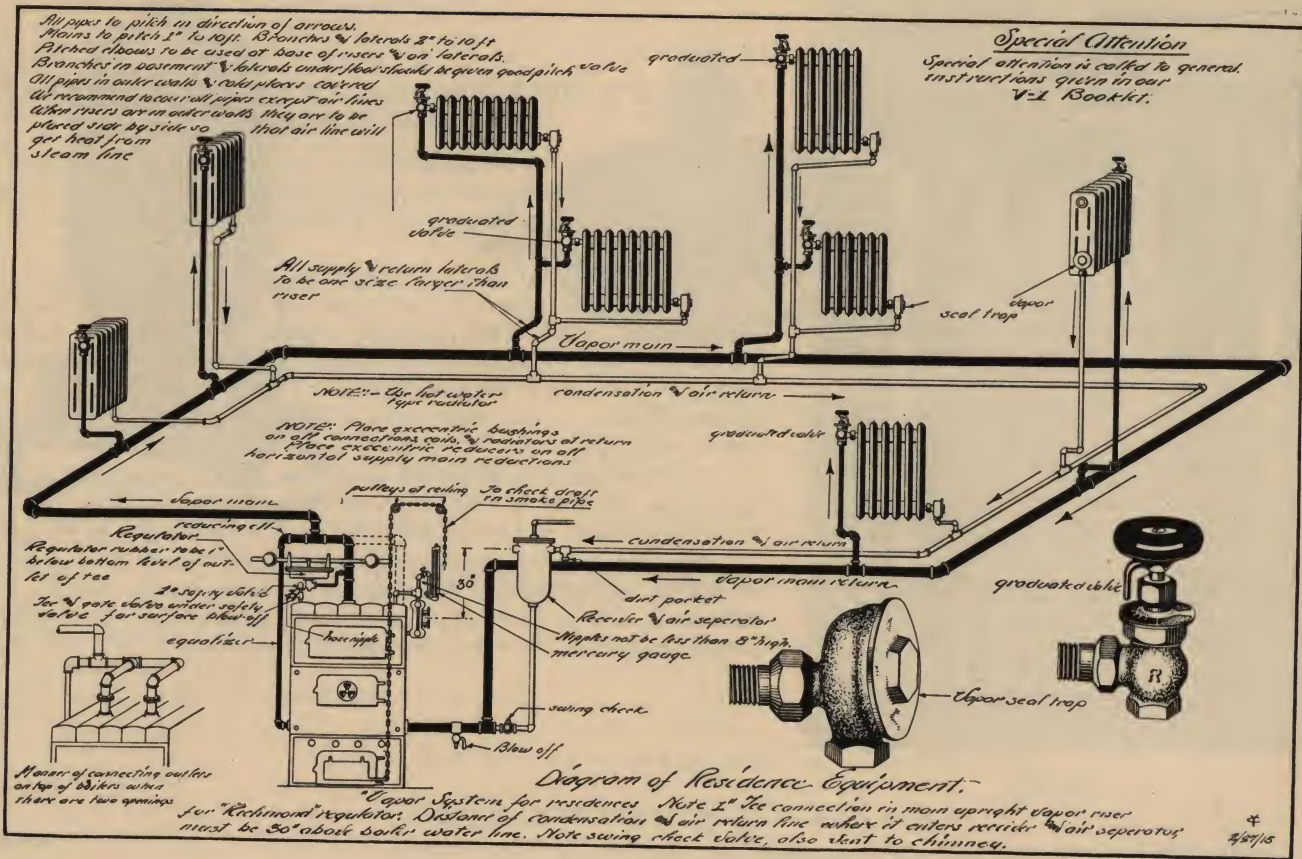
3479 N

CHECK DAMPERS, PLATE 3476 N AND PLATE 3477 N

Number	8	8	8	8
Size, inches	7	8	9	10
Plate 3476 N, each.....	\$1.00	\$1.00	\$1.00	\$1.00
Number	9	9	9	9
Size, inches	7	8	9	10
Plate 3477 N, each.....	\$1.25	\$1.25	\$1.25	\$1.25

DRAFT DAMPERS, PLATE 3478 N AND PLATE 3479 N

Number	2	2	2	7	7	7
Size, inches	10x4 1/4	8x6	15x7	10x7	12x7	15x7
Plate 3478 N and Plate 3479 N, each.....	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00



3480 N

XOXCO VAPOR HEATING SYSTEM, PLATE 3480 N

XOXCO vapor heating system is a process of heating by vapor arising from hot water, as distinguished from steam under pressure. No greater pressure is generated in the XOXCO vapor heating system than in a teakettle.

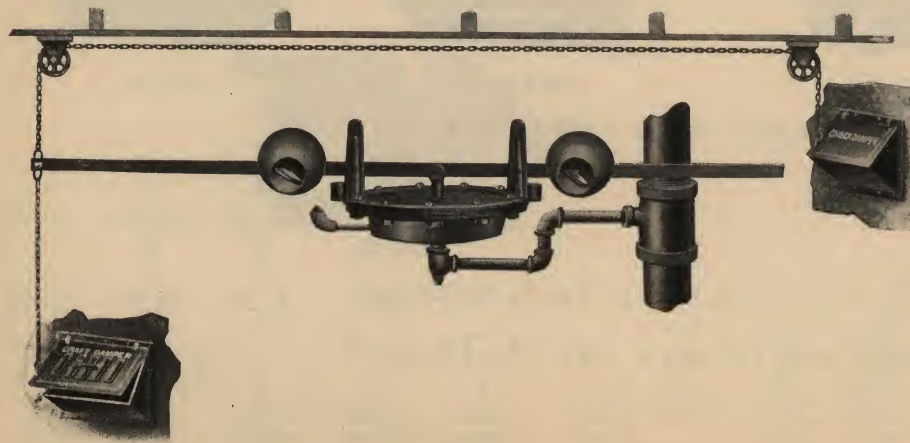
No pressure at all is required in the radiators, but the pressure in the boiler of from one to five ounces is required for operating the damper regulator. It is adaptable to all kinds and sizes of buildings, for all climates and conditions. It can be used in connection with any steam boiler of cast iron or steel construction, or on any power or central heating plant or exhaust line, from which pressure can be reduced through and pressure regulated.

In the ordinary steam heating system steam is generated in about 30 minutes after starting the fire. In the XOXCO vapor heating system vapor rises long before the temperature reaches the boiling point, and heat is perceptible in the radiators within a few minutes after the fire is started. The vapor ascends into the supply pipes, passes through the branches and risers and fills the radiators through the graduated valves. This process is natural because vapor is many times lighter than air. There is no pressure, as there is no air resistance to overcome. The air is removed from the system through the air lines and delivered to the receiver and air starter in the basement, from which it passes to the atmosphere or chimney.

Water of condensation from radiators is passed through "vapor seal" traps and air return lines to receiver and air starter, through which it is returned to the boiler and heated over and over again.

The graduated valves supply vapor to the radiators in just the volume required. The return traps, while relieving the radiators of water of condensation, also prevent vapor from returning into the air return lines. Water in mains is not required to pass into risers and radiators, but is returned through bleeders at end of mains.

The advantages of the XOXCO vapor heating system are no air valves, rapid circulation, noiseless and automatic operation, absence of steam pressure, no foul air emitted into the rooms, economical in fuel consumption, small piping, fittings and valves, no mechanical pumps, ejectors or devices, radiators smaller than in hot water heating and perfect control of temperature in each room.



3481 N

DAMPER REGULATOR, PLATE 3481 N

The XOXCO regulator can be set to operate the dampers on as low as 2 ounces of pressure at the boiler. It is usually set to close the drafts at about 5 ounces. The XOXCO regulator is so sensitive that the opening or closing of a single valve is immediately communicated to the regulator, which promptly performs its function. If all the radiator valves were shut off, the regulator would automatically close the drafts and the fire would be checked. If the valve on one radiator were opened half way, the regulator would automatically open the drafts, keeping them open until the radiator had become one-half filled with vapor, when it would again close the dampers and check the fire.



3482 N



3483 N



3484 N



3485 N

NORCO MERCURY GAUGE, PLATE 3482 N

NORCO gauges as ordinarily used on steam boilers are not sensitive. After a great many years of experimenting a mercury gauge has been devised which registers the slightest vapor. It is graduated in ounces and is absolutely accurate. It is attached to the boiler or piping in the basement or may be placed in one of the living rooms over the boiler.

NORCO RETURN TRAP, PLATE 3483 N

On the return end of each radiator is placed a NORCO trap or seal. Trap connected into the air return line. It automatically controls the discharge of air and water of condensation without permitting the escape or loss of vapor.

NORCO vapor seal trap consists of body, diaphragm, and strainer. When the graduated valve is opened on a cold radiator the vapor flows rapidly into the radiator, displacing the expelled and rarefied air, which passes from the radiator through the trap.

So long as air and water of condensation is passing through the trap the diaphragm remains in its normal or contracted condition. When the radiator becomes filled with vapor and the vapor comes in contact with the diaphragm (the latter which contains a highly sensitive volatile liquid) expands when heated, closes the trap and prevents any escape of vapor into the air line.

The diaphragm intermittingly contracting (opening) as water of condensation reaches trap and expanding (closing) when vapor again reaches diaphragm.

The trap therefore performs the three functions of expelling the air, discharging water of condensation and preventing the escape of vapor into air line. The process is continued automatic and positive.

NORCO GRADUATED VALVE, PLATE 3484 N

To insure the economy and flexibility of the NORCO vapor heating system, the valve has accurate graduation and calibration of the valve openings, so that vapor will be admitted into the radiator only as desired.

The valve opens and closes completely with one turn of the handle, an indicator plainly showing its position, and the operator can tell at a glance to what degree the valve is opened. If one-quarter of the radiator is to be supplied with vapor, the indicator is set at the one-quarter mark. If more heat is desired the indicator is set at the one-half, three-quarters or full mark, as found necessary.

The valve is conveniently placed at one end at the top of the radiator. The NORCO graduated valve has a steam-tight Jenkins disc. It has a wood wheel handle, an improvement over the lever handle discarded years ago because of the danger of burning the fingers of the operator if the handle were not gripped just right.

NORCO RECEIVER AND AIR SEPARATOR, PLATE 3485 N

The successful operation of a vapor heating system depends upon (first) the proper removal of air from radiators and piping and its discharge to the atmosphere; (second) return of the water of condensation by gravity to the boiler; (third) prevention of loss or escape of vapor, steam or water to the atmosphere; (fourth) means for adaptability of its operation under 1 or more pounds pressure if desired or exigency requires.

The NORCO receiver and air separator embraces these essentials. It is open to the atmosphere into which all air is discharged; it is the medium through which, by gravity, all water of condensation from the radiators is returned to the boiler; its construction is such that neither vapor nor water can escape from the system.

- One set of specialties, consisting of No. 1 receiver and air separator, damper regulator and mercury gauge, for use up to 1,500 square feet radiation, per set.....\$60.00
- One set of specialties, consisting of No. 2 receiver and air separator, damper regulator and mercury gauge, for use up to 3,000 square feet radiation, per set..... 90.00
- One set of specialties, consisting of No. 3 receiver and air separator, damper regulator and mercury gauge, for use up to 6,000 square feet radiation, per set.....120.00

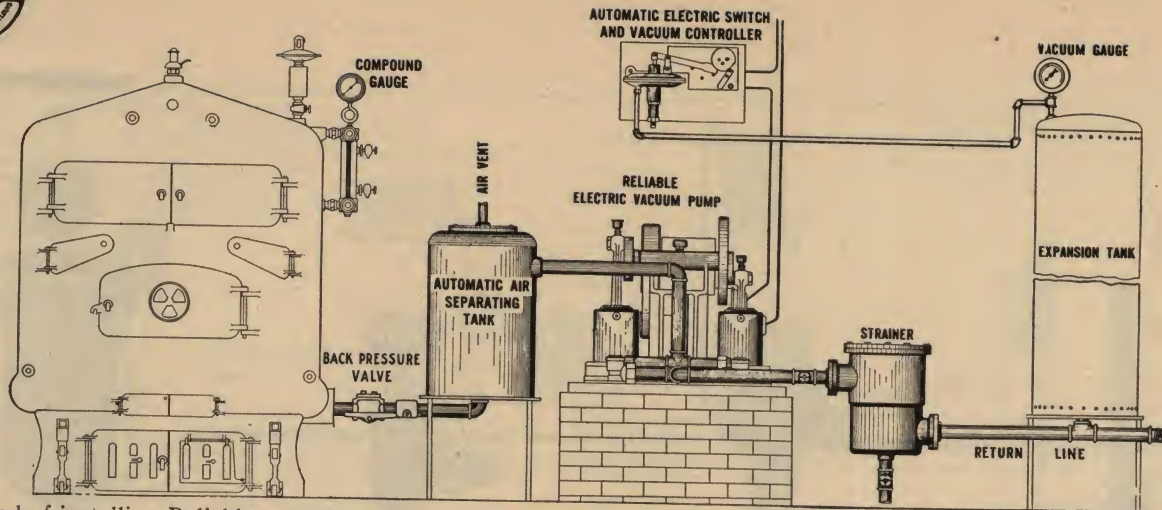
NORCO VAPOR SEAL TRAPS

Style	No. 1 Angle	No. 2 Angle	No. 3 Angle
Size, inches	1/2 x 1/2	1/2 x 3/4	1 x 1
Each	\$5.00	\$10.00	\$15.00

NORCO GRADUATED VALVES

Number	1	2	3	4	5	6
Size, inches	1/2	1/2	3/4	3/4	3/4	1
For radiator, feet.....	up to 40	41 to 70	71 to 100	101 to 140	141 to 200	201 to 300
Each	\$3.00	\$3.00	\$3.50	\$3.50	\$3.50	\$4.00

Send for separate booklet on vapor heating.



Method of installing Reliable return line vacuum heating equipment for returning condensation to low pressure boiler.
3486 N

RELIABLE RETURN LINE VACUUM HEATING SYSTEM

For two-pipe steam heating plants.

The Reliable return line vacuum heating equipment is used in connection with a two-pipe low pressure steam heating plant to provide quick and even heat circulation at any desired temperature, with a great fuel saving. This equipment may be used with new or old two-pipe low pressure steam heating plants of any size.

The return line equipment, by means of an electric vacuum pump, creates and maintains a partial vacuum in a heating system, which quickly draws out the air and pulls steam into all radiators.

The vacu-trap is placed on the return end of each radiator and allows air to be drawn from the system, but when steam reaches the trap it closes automatically and allows no steam to escape. When condensation accumulates in the radiator the vacu-trap opens automatically and permits the pump to draw out the condensation and any air.

The vacu-graduate packless valve is placed on the supply end of each radiator and enables the radiators to be entirely or partially heated. The rooms can be heated independently and the desired temperature can be maintained in each room regardless of weather conditions.

With the return line equipment air valves on the radiators are not required.

The system can be used in connection with exhaust steam, low pressure steam or high pressure steam that is reduced to fifteen pounds. It is especially suitable for use with steam from central stations where the pressure is often very low at the ends of mains and laterals, and in such cases the return line equipment overcomes all trouble and the vacuum pump eliminates air resistance.

The automatic electric switch and vacuum controller insures the desired vacuum in a heating system. The boiler, boiler connection and steam supply main are the same as in an ordinary two-pipe steam plant.

Full working plans and details for any size job will be furnished upon application.

Special catalog of the Reliable return line vacuum heating system will be sent on request.

RELIABLE RETURN LINE ELECTRIC VACUUM EQUIPMENT

Number of pump.....	2779	122	123	124	125
Maximum square feet direct radiation.....	2,000	5,000	10,000	17,000	25,000
Cylinder, bore, inches.....	2 1/4	3	4	4	5
Cylinder, stroke, inches.....	3	3 1/2	3 1/2	5	5
Discharge, inches.....	1	2	2	3	3
Suction, inches.....	1	2	2	3	3
Strokes per minute.....	120	70	70	68	60
Motor horsepower.....	1/8	3/4	1	2	2
Height over all, inches.....	29 1/2	21	24	31	31
Width over all, inches.....	17 1/2	24 1/2	27 1/2	33 1/2	33 1/2
Depth over all, inches.....	32	34	34	40	40
Shipping weight, including equipment, pounds.....	425	693	955	1,110	1,232
Price.....	\$350.00	\$550.00	\$650.00	\$750.00	\$850.00

The return line equipment includes the pump with A. C. or D. C. motor, automatic electric switch and vacuum controller, strainer, expansion tank, vacuum gauge and flanged union connections. Vacu-traps and vacu-packless radiator valves are extra.

Note.—The pump capacities given above are based on direct radiation. Proper allowance should be made for recessed, direct-indirect and indirect radiation.

Iron pipe size, inches.....	1/2	3/4	1	1 1/4	1 1/2
Little Wonder vacu-trap, brass, each.....	\$ 6.00	\$.....	\$.....	\$.....	\$.....
Little Wonder vacu-trap, nickel plated, each.....	6.50	.....	.....	18.00	20.00
No. 1 vacu-trap, iron, each.....	.....	.....	.....	.....	.....
No. 1 vacu-trap, brass, each.....	6.50	9.00	14.00	.....	.....
No. 1 vacu-trap, nickel plated, each.....	7.00	10.00	15.25	.....	.....
No. 2 flushing vacu-trap, brass, each.....	9.00	12.00	16.00	.....	.....
No. 2 flushing vacu-trap, nickel plated, each.....	10.00	13.00	17.25	.....	.....
Vacu-graduate packless radiator valve, nickel plated, each.....	.....	4.50	5.50	7.00	8.00

Note.—The prices cover valves with lever-handle, wheel-handle, or lock shield.

The vacu-graduate packless valve is a quick-opening, self-cleaning, graduating radiator valve of new design, which accurately controls the amount of steam admitted to the radiators.

The vacu-trap is a thermostatic valve, which automatically keeps the radiators, pipes and boiler free from air, and drains the radiators of condensation. One is used on each radiator, and each main and riser drip. The 1 1/4 and 1 1/2-inch No. 1 vacu-traps are used with blast and dryer coils; also indirect radiation. The Little Wonder vacu-trap is similar to No. 1, but of smaller size.

The No. 2 vacu-trap is similar to the No. 1 vacu-trap in style of construction and operation, but is a flushing trap. It permits the steam to blow out all foreign matter, without interfering with operation of the system, and without breaking any connections or removing cover of vacu-trap.

Automatic air separating tank, each..... \$125.00

For use if returns are made to low pressure boiler, closed receiving tank or closed feed water heater.

Compound pressure and vacuum gauge, each..... \$5.00



**RELIABLE VACU-VAPOR HEATING EQUIPMENT,
PLATE 3487 N**

For Two-Pipe Steam Heating Plants.

The Reliable vacu-vapor heating equipment may be used with new or old two-pipe low-pressure steam heating plants of any size. This maintains a vacuum in the system without the use of a vacuum pump. The natural condensation of steam in the radiators automatically creates a vacuum, which is utilized to pull the steam into the radiators. As the condensation process is continuous, the vacuum is maintained and the radiators are always full of vapor and steam.

The vacu-vapor equipment consists of vacu-traps, vacu-graduate packless radiator valves, vacu-checks, and vacu vent valves.

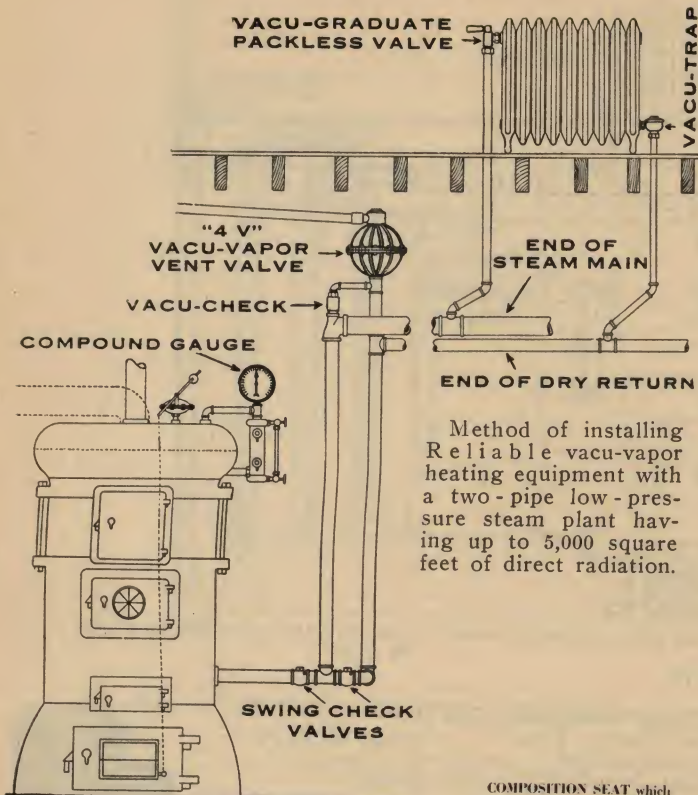
The vacu-trap and vacu-graduate packless radiator valves are also used with the return line system.

The vacu-traps, placed one on the return end of each radiator, and the vacu-graduate packless valves placed one on the supply end of each radiator, enable the radiators to be entirely or only partially heated. With this equipment ample heat is usually secured with vacuum instead of pressure in the boiler.

The "4-V" vacu-vapor vent valve, that is placed on the end of the dry return, is a new invention that absolutely prevents the system becoming air-bound. It also acts as a safety valve to prevent excess pressure.

The vacu-vapor check is a combined check valve and thermostat, which automatically liberates air and prevents the escape of hot vapor or steam. It is used on the ends of the steam mains.

Special catalog of the Reliable vacu-vapor heating system will be sent on request.



Method of installing Reliable vacu-vapor heating equipment with a two-pipe low-pressure steam plant having up to 5,000 square feet of direct radiation.

3487 N



3488 N

VACU-TRAP, PLATE 3488 N

The vacu-traps are heavy bronze thermostatic valves, which automatically keep a heating system free from air, and drain the radiators or coils of condensation without loss or escape of steam.

One vacu-trap is placed on return end of each radiator or coil. The vacu-trap allows air to be drawn out of radiators, supply piping and boiler, but when steam reaches it its thermal member expands, closing vacu-trap instantly.

The Little Wonder and No. 1 vacu-traps are identical in style of construction and operation, except that the Little Wonder vacu-trap is smaller.

The No. 2 vacu-trap is a flushing trap, and no change of valves or piping is necessary for cleaning the system. A key is furnished with No. 2 flushing vacu-traps, which, when inserted at top and turned by hand, raises crossbar and thermal member against the spring pressure enough to permit steam to blow freely through valve across the seat, cleaning radiation and vacu-traps thoroughly of all foreign matter, through a bypass to sewer. Cleaning is accomplished without interfering with operation of the heating system.

COMPOSITION SEAT which makes the Vacu-Graduate Valve packless.

A QUARTER TURN of this lever-handle fully opens or closes the valve.

BRONZE VALVE STEM easily removable.

OUTLET of steam to radiator or coil.

PORTS in valve through which steam passes to outlet.

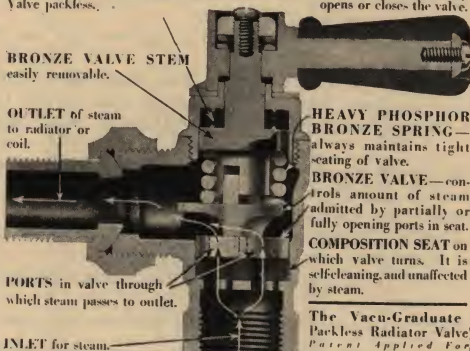
INLET for steam.

HEAVY PHOSPHOR BRONZE SPRING—always maintains tight seating of valve.

BRONZE VALVE—controls amount of steam admitted by partially or fully opening ports in seat.

COMPOSITION SEAT on which valve turns. It is self-cleaning and unaffected by steam.

The Vacu-Graduate Packless Radiator Valve Patent Applied For



3489 N

THE VACU-GRADUATE PACKLESS RADIATOR VALVE, PLATE 3489 N

The vacu-graduate packless valve, with lever handle, is a quick-opening, self-cleaning, graduating radiator valve, which accurately controls the amount of steam admitted to radiators or coils.

A vacu-graduate packless valve, with lever handle, is installed on the supply end of each top-feed radiator or coil. It provides for varying weather conditions, as in cold weather the radiators and coils can be fully heated, and in mild weather only partially heated.

Iron pipe size, inches.....	1/2	3/4	1	1 1/4	1 1/2
Little Wonder vacu-trap, brass, each	\$ 6.00	\$.....	\$.....	\$.....	\$.....
Little Wonder vacu-trap, nickel plated, each....	6.50	.....	.....	.....	.....
No. 1 vacu-trap, iron, each .....	.....	.....	.....	18.00	20.00
No. 1 vacu-trap, brass, each	6.50	9.00	14.00	.....	.....
No. 1 vacu-trap, nickel plated, each.....	7.00	10.00	15.25	.....	.....
No. 2 flushing vacu-trap, brass, each.....	9.00	12.00	16.00	.....	.....
No. 2 flushing vacu-trap, nickel plated, each.....	10.00	13.00	17.25	.....	.....
Vacu graduate packless radiator valve, nickel plated, each .....	.....	4.50	5.50	7.00	8.00
No. 4-V vacu-vapor vent valve, each.....	.....	.....	24.00	.....	.....
Vacu-check valve, nickel plated, each.....	5.00	12.00	.....	.....	.....

The vacu-traps and vacu graduate packless radiator valves are used on both the return line and the vacu-vapor heating systems.



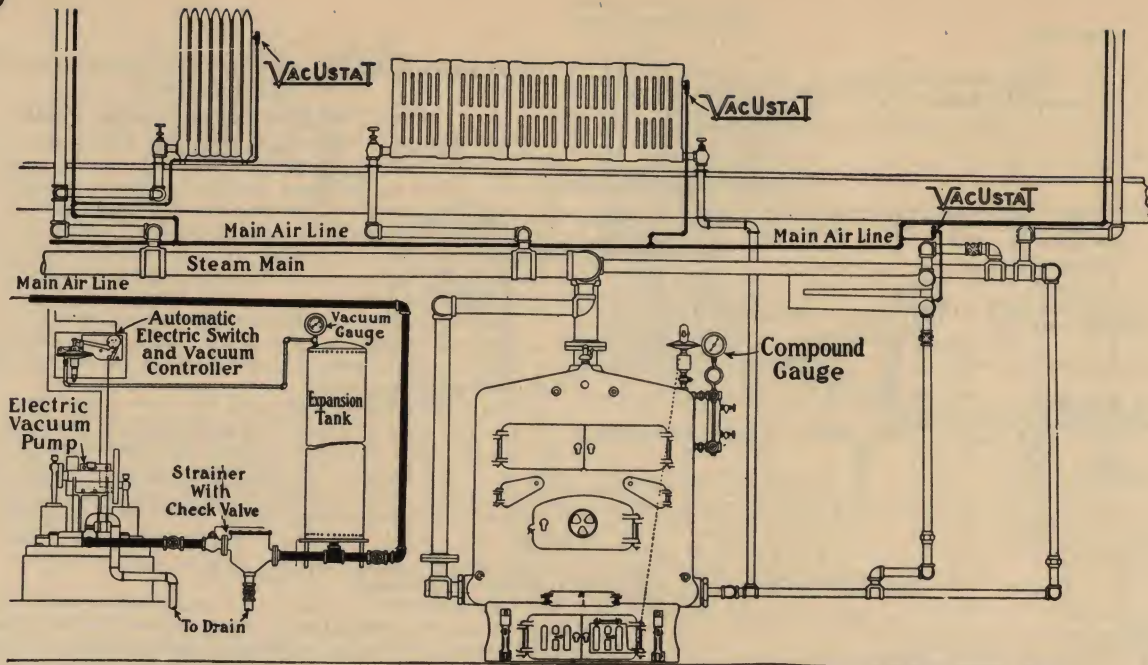
3490 N

THE VACU-CHECK, PLATE 3490 N

The vacu-check is a combined check valve and thermostatic valve, which automatically liberates air and prevents escape of hot vapor or steam.

One vacu-check is installed on end of each steam supply main or circuit. It is vented through the "4-V" vacu-vapor vent valve. Air passes through the vacu-check freely, but as soon as hot vapor reaches it its thermal member expands, closing the passage instantly. This absolutely prevents escape of hot vapor or steam. A removable strainer at the bottom catches any foreign matter.

The vacu-check contains a check valve, which prevents air and condensation from the returns getting back into the steam main.



Method of installing a Reliable air line electric vacuum pump and equipment, with a one and two-pipe steam plant.

3491 N

RELIABLE AIR LINE VACUUM HEATING SYSTEM

For One-Pipe Steam Heating Plant

The Reliable air line vacuum heating equipment is used in connection with a one-pipe low-pressure steam heating plant to provide quick, thorough and even heat circulation, with a great fuel saving.

This equipment may be used with new or old low-pressure steam heating plants of any size, and is just as efficient in the biggest sky-scraper as in a small residence.

The boiler, boiler connections, supply piping and radiator supply valves are the same as for ordinary one-pipe steam plant.

In ordinary steam heating plants steam cannot generate under 212 degrees Fahrenheit and steam pressure must be created to force air out of the system before the steam can enter the radiators. The Reliable vacuum equipment pulls the air out of all pipes, radiators and coils, and makes every square inch of radiation effective heating surface.

By means of an electric or hydraulic vacuum pump, the Reliable air line equipment creates and maintains a partial vacuum in a heating system, which quickly draws out the air and pulls steam into all the radiators. This means rapid heating throughout the entire system.

A VacUstat thermostatic valve (Plate 3492 N) is placed on each radiator, which automatically keeps the radiators, pipes and boiler free from air and prevents escape of steam.

The equipment includes an automatic cut-off and vacuum controller that always maintains the desired vacuum.

Special catalog of the Reliable air line vacuum heating equipment will be sent on request.



3492 N

RELIABLE AIR LINE ELECTRIC VACUUM EQUIPMENT

Number of pump.....	1279	111	112	113	114	115
Maximum square feet direct radiation.....	4,000	5,000	10,000	18,000	28,000	35,000
Cylinder, bore, inches.....	2 1/4	2 1/4	3	4	4	5
Cylinder, stroke, inches.....	3	3	3 1/2	3 1/2	5	5
Discharge, inches.....	1	1	1	1 1/4	1 1/2	2
Suction, inches.....	1	1	1	1 1/4	1 1/2	2
Strokes per minute.....	150	90	70	70	68	60
Motor horsepower.....	1/6	1/6	1/2	3/4	1	2
Height over all, inches.....	30	17	21	24	31	31
Width over all, inches.....	18	14	25	25	32	34
Depth over all, inches.....	32	18	34	34	39	39
Shipping weight, including equipment, pounds.....	370	270	551	600	790	998
Price	\$250.00	\$325.00	\$550.00	\$650.00	\$750.00	\$850.00

The electric pump equipment includes automatic electric switch and vacuum controller, strainer, expansion tank, vacuum gauge and flanged screw connections. VacUstat air valves for radiators are extra.

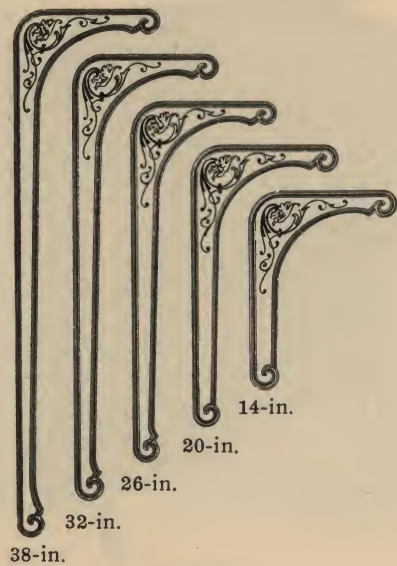
RELIABLE AIR LINE HYDRAULIC VACUUM PUMPS

Number of pump.....	101	101	102	102	104	104	106	1-106	2-106	2-106
Maximum square feet direct radiation.....	700	800	900	1,100	2,500	4,000	6,600	9,600	14,000	20,000
City water pressure, pounds.....	20	40	20	40	20	40	20	40	20	40
Motive cylinder, inches.....	2	2	2	2	2 1/2	2 1/2	3 3/8	3 3/8	3 3/8	3 3/8
Suction cylinder, inches.....	2 1/2	2 1/2	2 1/2	2 1/2	4	4	5 13/16	5 13/16	5 13/16	5 13/16
Stroke, inches.....	4	4	4	4	6	6	10	10	10	10
Water inlet and waste, inches.....	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Air suction and discharge, inches.....	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Shipping weight, including equipment, pounds.....	110	110	140	140	156	156	200	200	400	400
Price	\$125.00	\$125.00	\$165.00	\$165.00	\$220.00	\$220.00	\$260.00	\$260.00	\$520.00	\$520.00

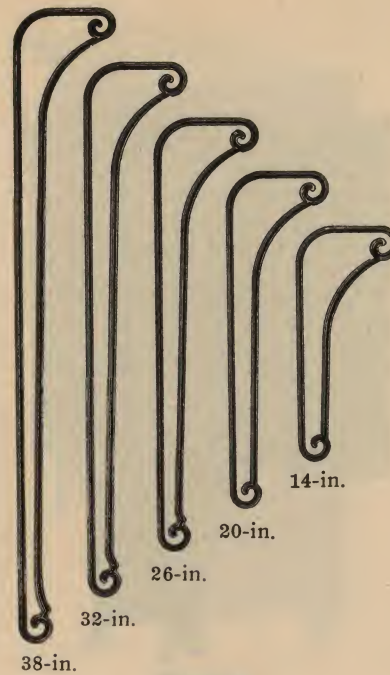
The hydraulic pump equipment includes automatic cut-off and vacuum controller, air separator with strainer, water pressure regulator, water gauge, vacuum gauge and necessary couplings. VacUstat air valves for radiators are extra.

VacUstat thermostatic valves, nickel plated, each..... \$3.00

The VacUstat is a thermostatic valve, which automatically keeps the radiators, pipes and boiler free from air, and prevents escape of steam. One is used on each radiator.



3493 N



3494 N

**SHAPCO FLAT TOP RADIATOR SHIELDS,
PLATE 3493 N**

Heights, 44, 38, 32, 26, 20 and 14 inches.
Plain and Ornamental.

No. of Loops or Sections in Radiator	*Regular Length of Shields in Inches	Column and Wall			*Regular Length of Shields in Inches	4 Column and Window
		1 Column	2 Column	3 Column		
3-6	15	\$ 3.59	\$ 3.82	\$ 3.98	18	\$ 4.37
7	17½	3.88	4.13	4.30	21	4.73
8	20	4.13	4.40	4.58	24	5.03
9	22½	4.42	4.71	4.90	27	5.39
10	25	4.74	5.06	5.27	30	5.79
11	27½	5.07	5.40	5.63	33	6.19
12	30	5.40	5.76	6.00	36	6.60
13	32½	5.51	5.87	6.12	39	6.74
14	35	5.82	6.19	6.46	42	7.10
15	37½	6.21	6.60	6.89	45	7.58
16	40	6.57	6.98	7.29	48	8.01
17	42½	7.10	7.55	7.88	51	8.66
18	45	7.58	8.07	8.42	54	9.26
19	47½	7.71	8.20	8.56	57	9.41
20	50	8.10	8.63	9.00	60	9.90
21	52½	8.52	9.07	9.46	63	10.40
22	55	8.94	9.52	9.93	66	10.91
23	57½	9.36	9.96	10.40	69	11.43
24	60	9.72	10.35	10.80	72	11.88
25	62½	10.25	10.91	11.38	75	12.51
26	65	10.70	11.39	11.88	78	13.01
27	67½	11.18	11.90	12.41	81	13.65
28	70	11.64	12.39	12.93	84	14.21
29	72½	12.12	12.91	13.47	87	14.81
30	75	12.63	13.44	14.02	90	15.41

**RINGEN FLAT TOP RADIATOR SHIELDS,
PLATE 3494 N**

Heights, 44, 38, 32, 26, 20 and 14 inches.
Plain and Ornamental.

No. of Loops or Sections in Radiator	*Regular Length of Shields in Inches	Column and Wall			*Regular Length of Shields in Inches	4 Column and Window
		1 Column	2 Column	3 Column		
3-6	15	\$2.39	\$2.55	\$2.65	18	\$ 2.92
7	17½	2.59	2.75	2.85	21	3.14
8	20	2.75	2.93	3.05	24	3.35
9	22½	2.95	3.15	3.28	27	3.60
10	25	3.17	3.38	3.52	30	3.88
11	27½	3.38	3.60	3.75	33	4.13
12	30	3.60	3.84	4.00	36	4.40
13	32½	3.68	3.91	4.08	39	4.49
14	35	3.89	4.13	4.31	42	4.73
15	37½	4.14	4.41	4.60	45	5.06
16	40	4.38	4.66	4.86	48	5.34
17	42½	4.73	5.03	5.25	51	5.76
18	45	4.88	5.19	5.42	54	5.96
19	47½	5.14	5.47	5.70	57	6.27
20	50	5.40	5.75	6.00	60	6.60
21	52½	5.68	6.04	6.30	63	6.93
22	55	5.96	6.34	6.62	66	7.28
23	57½	6.24	6.64	6.93	69	7.61
24	60	6.48	6.90	7.20	72	7.92
25	62½	6.83	7.27	7.59	75	8.34
26	65	7.13	7.59	7.92	78	8.82
27	67½	7.46	7.93	8.27	81	9.09
28	70	7.77	8.26	8.62	84	9.47
29	72½	8.09	8.61	8.98	87	9.87
30	75	8.43	8.96	9.35	90	10.58

*The above lengths are based on the standard distances from center to center of loops; but shields are made to conform to any given measure.

Ringen shields can be had with either open or closed top sustaining rolls.

Plate 3495 N shows the dust retainer with which all Shapco shields are equipped. It is kept in its closed position by means of a flat steel spring.

All Shapco shields are furnished with the patented dust retainer or trap, which is lowered for the purpose of cleaning, as shown in Plate 3497 N. The Shapco type is furnished in all of the series of radiator shields manufactured.

All shields, except the flare top series, are also furnished in 44-inch length. This addition has just been made.

Shields are sheet steel body, cast iron brackets, ready for finish to be applied on the job. On request, we can finish shields in gold, copper, aluminum and other bronzes and colors—also solid brass. Prices on application.

Plate 3495 N shows the manner of fastening Shapco and Ringen shields to the radiators. The slip sockets are located to fit easily into the uprights fastened at each end of the radiator, as shown above.



3495 N



3496 N

**SHAPCO FLARE TOP RADIATOR SHIELDS,
PLATE 3495 N**

Short, Medium or Full Length.

No. of Loops or Sections in Radiator	*Regular Length of Shields in Inches	*Regular Length of Shields in Inches			*Regular Length of Shields in Inches	4 Column and Window
		1 Column and Wall	2 Column	3 Column		
3-6	15	\$ 2.87	\$ 3.18	\$ 3.18	18	\$ 3.49
7	17½	3.10	3.44	3.44	21	3.78
8	20	3.30	3.66	3.66	24	4.02
9	22½	3.53	3.92	3.92	27	4.31
10	25	3.79	4.21	4.21	30	4.63
11	27½	4.05	4.50	4.50	33	4.95
12	30	4.32	4.80	4.80	36	5.28
13	32½	4.59	5.10	5.10	39	5.61
14	35	4.85	5.38	5.38	42	5.91
15	37½	5.17	5.74	5.74	45	6.31
16	40	5.47	6.07	6.07	48	6.67
17	42½	5.91	6.56	6.56	51	7.21
18	45	6.31	7.01	7.01	54	7.71
19	47½	6.42	7.13	7.13	57	7.84
20	50	6.75	7.50	7.50	60	8.25
21	52½	7.10	7.88	7.88	63	8.66
22	55	7.45	8.27	8.27	66	9.09
23	57½	7.80	8.66	8.66	69	9.52
24	60	8.10	9.00	9.00	72	9.90
25	62½	8.54	9.48	9.48	75	10.42
26	65	8.91	9.90	9.90	78	10.89
27	67½	9.31	10.34	10.34	81	11.37
28	70	9.70	10.77	10.77	84	11.84
29	72½	10.10	11.22	11.22	87	12.34
30	75	10.52	11.68	11.68	90	12.84

**RINGEN FLARE TOP RADIATOR SHIELDS,
PLATE 3496 N**

Short, Medium or Full Length.

No. of Loops or Sections in Radiator	*Regular Length of Shields in Inches	*Regular Length of Shields in Inches			*Regular Length of Shields in Inches	4 Column and Window
		1 Column and Wall	2 Column	3 Column		
3-6	15	\$1.91	\$2.12	\$2.12	18	\$2.33
7	17½	2.07	2.29	2.29	21	2.51
8	20	2.20	2.44	2.44	24	2.68
9	22½	2.36	2.62	2.62	27	2.88
10	25	2.53	2.81	2.81	30	3.09
11	27½	2.70	3.00	3.00	33	3.30
12	30	2.88	3.20	3.20	36	3.52
13	32½	3.06	3.40	3.40	39	3.74
14	35	3.24	3.59	3.59	42	3.94
15	37½	3.45	3.83	3.83	45	4.21
16	40	3.65	4.05	4.05	48	4.45
17	42½	3.94	4.37	4.37	51	4.80
18	45	4.06	4.51	4.51	54	4.96
19	47½	4.28	4.75	4.75	57	5.22
20	50	4.50	5.00	5.00	60	5.50
21	52½	4.73	5.25	5.25	63	5.77
22	55	4.96	5.51	5.51	66	6.06
23	57½	5.20	5.77	5.77	69	6.34
24	60	5.40	6.00	6.00	72	6.60
25	62½	5.69	6.32	6.32	75	6.95
26	65	5.94	6.60	6.60	78	7.26
27	67½	6.21	6.89	6.89	81	7.57
28	70	6.47	7.18	7.18	84	7.89
29	72½	6.74	7.48	7.48	87	8.22
30	75	7.02	7.79	7.79	90	8.56

*The above lengths are based on the standard distances from center to center of loops; but shields are made to conform to any given measure.

Plate 3495 N shows the dust retainer with which all Shapco shields are equipped. It is kept in its closed position by means of a flat steel spring.

All Shapco shields are furnished with the patented dust retainer, which is lowered for the purpose of cleaning, as shown in Plate 3497 N. The Shapco type is furnished in all of the series of radiator shields manufactured.

All shields, except the flare top series, are also furnished in 44-inch length. This addition has just been made.

Shields are sheet steel body, cast iron brackets, ready for finish to be applied on the job. On request, we can finish shields in gold, copper, aluminum and other bronzes and colors—also solid brass. Prices on application.

Plate 3495 N shows the manner of fastening Shapco and Ringen shields to the radiators. The slip sockets are located to fit easily into the uprights fastened at each end of the radiator, as shown above.



3497 N

3498 N

**SHAPCO MANTEL RADIATOR SHIELDS,
PLATE 3497 N**

**RINGEN MANTEL RADIATOR SHIELDS,
PLATE 3498 N**

Heights, 44, 38, 32, 26, 20 and 14 inches.
Plain and Ornamental.

Heights, 44, 38, 32, 26, 20 and 14 inches.
Plain and Ornamental.

No. of Loops or Sections in Radiator	*Regular Length of Shields in Inches	1 Column and Wall	2 Column	3 Column	*Regular Length of Shields in Inches	4 Column and Window
3-6	15	\$ 5.84	\$ 6.07	\$ 6.98	18	\$ 9.41
7	17½	6.51	6.76	7.80	21	10.61
8	20	7.13	7.40	8.58	24	11.75
9	22½	7.80	8.09	9.40	27	12.95
10	25	8.49	8.81	10.27	30	14.19
11	27½	9.20	9.53	11.13	33	15.43
12	30	9.90	10.26	12.00	36	16.68
13	32½	10.39	10.75	12.62	39	17.66
14	35	11.07	11.44	13.46	42	18.86
15	37½	11.84	12.23	14.39	45	20.18
16	40	12.57	12.98	15.29	48	21.45
17	42½	13.48	13.93	16.38	51	22.94
18	45	14.33	14.82	17.42	54	24.38
19	47½	14.84	15.33	18.06	57	25.37
20	50	15.60	16.13	19.00	60	26.70
21	52½	16.40	16.95	19.96	63	28.04
22	55	17.19	17.77	20.93	66	29.39
23	57½	17.99	18.59	21.90	69	30.75
24	60	18.72	19.35	22.80	72	32.04
25	62½	19.63	20.29	23.88	75	33.51
26	65	20.45	21.14	24.88	78	34.91
27	67½	21.31	22.03	25.91	81	36.33
28	70	22.14	22.89	26.93	84	37.73
29	72½	23.00	23.79	27.97	87	39.17
30	75	23.88	24.69	29.02	90	40.61

No. of Loops or Sections in Radiator	*Regular Length of Shields in Inches	1 Column and Wall	2 Column	3 Column	*Regular Length of Shields in Inches	4 Column and Window
3-6	15	\$ 4.64	\$ 4.80	\$ 5.65	18	\$ 7.96
7	17½	5.22	5.38	6.35	21	9.02
8	20	5.75	5.93	7.05	24	10.07
9	22½	6.33	6.53	7.78	27	11.16
10	25	6.92	7.13	8.52	30	12.28
11	27½	7.51	7.93	9.25	33	13.37
12	30	8.10	8.34	10.00	36	14.48
13	32½	8.56	8.79	10.58	39	15.41
14	35	9.14	9.38	11.31	42	16.49
15	37½	9.77	10.04	12.10	45	17.66
16	40	10.38	10.66	12.86	48	18.78
17	42½	11.11	11.41	13.75	51	20.04
18	45	11.63	11.94	14.42	54	21.08
19	47½	12.27	12.60	15.20	57	22.23
20	50	12.90	13.05	16.00	60	23.40
21	52½	13.56	13.92	16.80	63	24.57
22	55	14.21	14.59	17.62	66	25.76
23	57½	14.87	15.27	18.43	69	26.93
24	60	15.48	15.90	19.20	72	28.08
25	62½	16.21	16.65	20.09	75	29.34
26	65	16.88	17.34	20.92	78	30.66
27	67½	17.59	18.06	21.77	81	31.77
28	70	18.27	18.76	22.62	84	32.99
29	72½	18.97	19.49	23.48	87	34.23
30	75	19.68	20.21	24.35	90	35.78

Prices include marble top.

*The above lengths are based on the standard distances from center to center of loops; but shields are made to conform to any given measure.

Choice of Italian, Vermont, or gray, pink or dark Tennessee marble. Tops can also be furnished in the imported marbles or glass, for which prices will be furnished upon application.

Shields up to 36 inches in length are provided with marble slabs 1 inch thick; from 36 inches to 60 inches in length, 1¼ inches thick. Shields longer than 60 inches will be supplied with slabs 1½ inches thick.

Ringen shields can be had with either open or closed top sustaining rolls.

Plate 3495 N shows the dust retainer with which all Shapco shields are equipped. It is kept in its closed position by means of a flat steel spring.

All Shapco shields are furnished with the patented dust retainer or trap, which is lowered for the purpose of cleaning, as shown in Plate 3497 N. The Shapco type is furnished in all of the series of radiator shields manufactured.

All shields, except the flare top series, are also furnished in 44-inch length. This addition has just been made.

Shields are sheet steel body, cast iron brackets, ready for finish to be applied on the job. On request, we can finish shields in gold, copper, aluminum and other bronzes and colors—also solid brass. Prices on application.

Plate 3495 N shows the manner of fastening Shapco and Ringen shields to the radiators. The slip sockets are located to fit easily into the uprights fastened at each end of the radiator, as shown above.



Air Cell.
For medium steam pressure and heating pipes.



3506 N

Wool Felt.
For cold water, lined with tar paper.



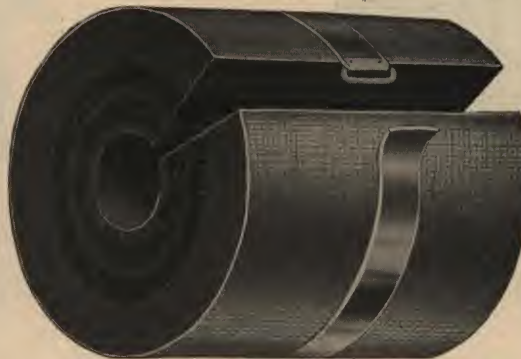
3507 N

85 per cent Magnesia.
For high pressure and superheated steam pipes.



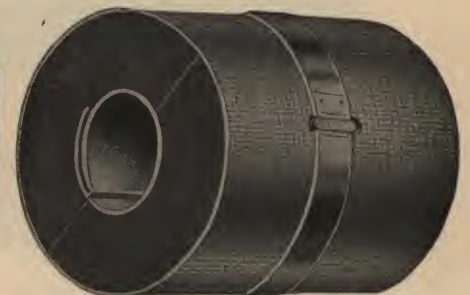
3508 N

Zero.
To prevent pipes from freezing.



3509 N

Wool Felt.
For hot water, lined with asbestos paper.



3510 N

SECTIONAL PIPE COVERING, PLATE 3506 N TO PLATE 3510 N

Inside Diameter of Pipe, inches	Price per Lineal Foot.	Plate 3506 N				Globe Valves.	Inside Diameter of Pipe, inches	Price per Lineal Foot.	Plate 3510 N			
		Elbows.	Tees.	Crosses.	Globe Valves.				Elbows.	Tees.	Crosses.	Globe Valves.
1/2	\$0.22	\$0.30	\$0.36	\$0.48	\$0.54	7	\$1.00	\$1.80	\$2.20	\$2.80	\$3.60	
3/4	.24	.30	.36	.48	.54	8	1.10	2.40	3.00	3.60	4.40	
1	.27	.30	.36	.48	.54	9	1.20	3.00	3.80	4.40	5.30	
1 1/4	.30	.30	.36	.48	.54	10	1.30	3.60	4.60	5.20	6.20	
1 1/2	.33	.30	.36	.48	.54	12	1.85	....	....	....	....
2	.36	.36	.42	.54	.60	14	2.10	....	....	....	....
2 1/2	.40	.42	.48	.60	.78	16	....	....	....	....	....
3	.45	.48	.54	.70	.96	18	2.60	....	....	....	....
3 1/2	.50	.54	.60	.80	1.20	20	2.85	....	....	....	....
4	.60	.60	.75	.95	1.50	24	3.30	....	....	....	....
4 1/2	.65	.72	.90	1.10	1.85	30	4.00	....	....	....	....
5	.70	.90	1.20	1.50	2.25			....	....	....	....
6	.80	1.30	1.60	2.00	2.80							

All pipe coverings are supplied in sections three feet long, canvas covered and with bands.

SHEETS AND BLOCKS

Thickness, inches	3/4	1	1 1/4	1 1/2	2	2 1/4	2 1/2	2 3/4	3	3 1/2	4
Per square foot.....	\$0.27	\$0.30	\$0.38	\$0.45	\$0.60	\$0.68	\$0.75	\$0.83	\$0.90	\$1.05	\$1.20

Weight sheets and blocks per square foot, 1 inch thick: 85 per cent magnesia blocks (3x18 inches or 6x36 inches), 1 1/2 pounds. Asbestos molded blocks (4x18 inches), 2 3/4 pounds.

Cannot be furnished less than 1 1/2 inches thick.

Asbestos air-cell sheets, 1/4-inch corrugations, 3x3 feet, 2 pounds.



ASBESTOS CEMENT, PLATE 3512 N

Asbestos, per bag of 100 pounds.....	\$3.00
85 per cent magnesia cement, per bag of 60 pounds.....	7.50

3512 N

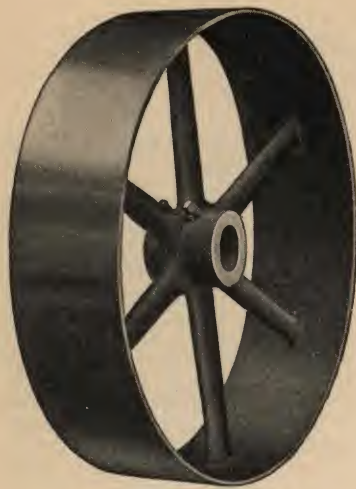
MINERAL WOOL IN BULK

For insulation against heat or cold it is the best and cheapest fire-proof material known. It is moth and vermin-proof and will not harbor germs of disease. It is used for filling in walls and floors of residences, refrigerating and cold storage rooms, boiler and furnace rooms, and for protecting any exposed surface against heat or cold. It is sold in burlap bags holding about 45 pounds of wool. A charge of 10 cents is made for bags, subject to credit if returned within thirty days.

Selected wool, weight 9 pounds per cubic foot, 5/8 lb. per square foot 1 inch thick, per 100 pounds.....	\$1.50
Extra wool, weight 6 pounds per cubic foot, 1/2 lb. per square foot 1 inch thick, per 100 pounds.....	3.00



CAST IRON WHOLE PULLEYS, PLATE 3510 AN



3510 AN

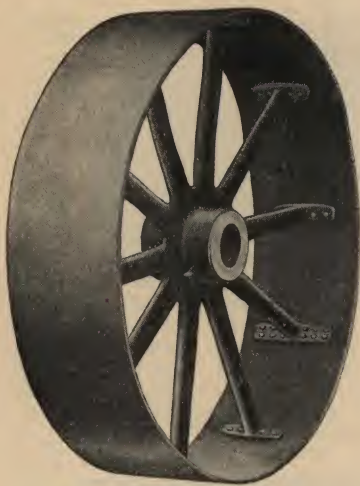
Diameter.	Face.	PRICE.	
		Single Belt.	Double Belt.
3	3	\$ 1.10	\$ 1.20
	4	1.20	1.30
	6	1.60	1.75
4	3	1.20	1.30
	4	1.35	1.45
	6	1.70	1.85
6	3	1.40	1.50
	4	1.55	1.70
	6	2.10	2.25
	8	2.70	2.90
8	3	1.60	1.75
	4	1.85	2.00
	6	2.40	2.60
	8	3.00	3.30
10	3	2.10	2.35
	4	2.35	2.60
	6	2.95	3.35
	8	3.60	4.10
	10	4.30	4.90
12	3	2.30	2.60
	4	2.65	2.95
	6	3.40	3.85
	8	4.20	4.80
	10	5.00	5.75
	12	5.80	6.75
14	3	2.70	3.05
	4	3.05	3.40
	6	3.90	4.45
	8	4.80	5.55
	10	5.70	6.60
	12	6.60	7.70
	14	7.60	8.80
16	3	3.10	3.50
	4	3.50	3.90
	6	4.40	5.05
	8	5.40	6.25
	10	6.40	7.50
	12	7.40	8.75
	14	8.50	10.00
	16	10.80	12.45
18	3	3.55	4.05
	4	4.00	4.50
	6	5.00	5.75
	8	6.00	7.00
	10	7.10	8.40
	12	8.20	9.80
	14	9.40	11.10
	16	11.95	13.80
20	3	3.85	4.40
	4	4.40	4.95
	6	5.60	6.45
	8	6.80	8.00
	10	8.10	9.60
	12	9.50	11.30

Diameter.	Face.	PRICE.		Diameter.	Face.	PRICE.		Diameter.	Face.	PRICE.	
		Single Belt.	Double Belt.			Single Belt.	Double Belt.			Single Belt.	Double Belt.
20	14	\$11.20	\$13.15	36	10	\$16.40	\$19.20	52	12	\$30.95	\$36.10
	16	13.60	15.80		12	20.10	23.10		14	38.00	44.20
	18	16.05	18.35		14	23.60	27.40		16	45.10	52.40
22	3	4.15	4.70		16	27.20	31.70		18	52.20	60.60
	4	4.80	5.40		18	30.90	36.00		20	59.40	68.90
	6	6.20	7.15		20	34.00	40.30		22	66.75	77.30
	8	7.60	9.00	38	3	7.75	9.20	54	6	21.30	24.00
	10	9.20	10.90		4	8.80	10.60		8	26.00	28.80
	12	10.85	12.90		6	11.50	14.00		10	28.90	34.20
	14	13.00	15.20		8	14.50	17.55		12	33.85	39.60
	16	15.30	17.70		10	17.50	21.20		14	41.40	48.00
	18	17.70	20.30		12	21.20	25.50		16	48.75	56.60
24	3	4.55	5.15		14	24.80	30.40		18	56.15	65.20
	4	5.20	5.90		16	28.70	35.50		20	63.80	73.90
	6	6.70	7.80		18	32.80	40.70		22	71.50	80.00
	8	8.40	9.90		20	37.00	45.60	56	6	23.10	26.00
	10	10.25	12.15						8	28.05	31.20
	12	12.25	14.55	40	3	8.15	9.70		10	31.80	37.00
	14	14.85	17.35		4	9.25	11.26		12	36.90	43.00
	16	17.00	19.70		6	12.25	14.85		14	44.60	51.90
	18	19.40	22.30		8	15.25	18.60		16	52.40	60.90
	20	22.05	25.15		10	18.60	22.50		18	60.30	69.90
26	3	5.25	5.80		12	22.40	27.00		20	68.20	79.00
	4	5.95	6.65		14	26.40	32.10		22	76.20	82.00
	6	7.70	8.55		16	30.90	37.60	60	6	26.70	30.00
	8	9.60	10.70		18	35.40	43.20		8	32.60	35.90
	10	12.00	13.25		20	40.00	49.00		10	37.20	42.70
	12	14.40	15.85	42	4	9.80	11.90		12	43.00	49.70
	14	17.00	18.80		6	12.85	15.60		14	51.40	59.40
	16	19.70	21.90		8	16.05	19.70		16	59.90	69.40
	18	22.40	25.10		10	19.55	24.00		18	68.50	78.00
	20	25.40	28.40		12	23.35	28.60		20	77.10	86.00
28	3	5.70	6.60		14	27.50	34.30		22	85.70	94.00
	4	6.55	7.50		16	32.50	40.00		24	94.30	102.00
	6	8.45	9.82		18	37.50	46.00	62	6	31.00	36.00
	8	10.55	12.40		20	42.50	52.00		8	37.60	44.00
	10	12.95	15.18						10	44.20	50.00
	12	15.60	18.11	44	4	10.35	12.55		12	50.80	58.00
	14	18.60	21.74		6	13.50	16.50		14	59.10	67.00
	16	21.60	25.35		8	17.10	20.90		16	67.40	75.00
	18	24.60	28.98		10	20.75	25.30		18	75.70	83.00
	20	27.60	32.65		12	24.60	29.90		20	84.00	90.00
30	3	6.20	7.04		14	29.30	36.30		22	92.30	98.00
	4	7.10	8.19		16	34.50	42.70		24	100.60	111.00
	6	9.15	10.60		18	39.80	49.30	64	6	33.00	38.00
	8	11.45	13.50		20	45.40	56.10		8	39.60	46.00
	10	14.05	16.48						10	46.20	52.50
	12	16.75	19.85	46	4	10.95	13.25		12	52.80	63.00
	14	20.00	23.63		6	14.30	17.30		14	61.10	71.00
	16	23.30	27.51		8	17.95	21.90		16	69.40	78.00
	18	26.60	31.29		10	21.60	26.50		18	77.70	86.00
	20	29.90	35.07		12	25.60	31.20		20	86.00	92.00
32	3	6.55	7.45		14	30.90	38.10		22	94.30	100.00
	4	7.45	8.61		16	36.50	44.90		24	102.60	113.00
	6	9.55	11.00		18	42.20	51.80	66	6	35.00	40.00
	8	11.85	13.91		20	48.10	59.10		8	41.60	48.00
	10	14.45	16.92	48	3	9.85	11.90		10	48.20	56.50
	12	17.15	20.27		4	11.50	14.00		12	54.80	65.00
	14	20.40	24.05		6	15.10	18.40		14	63.10	73.00
	16	23.80	28.04		8	18.80	23.10		16	71.40	80.00
	18	27.30	31.82		10	22.60	28.00		18	79.70	87.00
	20	30.80	35.70		12	26.70	35.25		20	88.00	98.00
34	3	6.95	7.88		14	32.50	40.00		22	96.30	106.00
	4	7.85	9.03		16	38.60	47.50		24	104.60	115.00
	6	9.95	11.55	50	6	18.30	20.00		6	36.50	41.50
	8	12.50	14.60		8	21.90	24.00		8	43.10	49.00
	10	15.20	17.85		10	24.30	28.60		10	49.70	57.50
	12	18.20	21.30		12	28.05	36.00		12	56.30	67.00
	14	21.70	25.40		14	34.75	41.00		14	65.10	75.00
	16	25.20	29.50		16	41.40	48.80		16	73.40	85.00
	18	28.70	33.70		18	48.10	56.80	52	6	19.60	22.00
	20	32.30	37.90						8	23.80	26.50
36	3	7.35	8.30						10	26.75	31.30
	4	8.30	9.55								
	6	10.70	12.50								
	8	13.50	15.85								

When ordering, specify if Pulleys are wanted to transmit power of Single, Double, or Triple thickness leather belt.



PATENT STEEL RIM WHOLE PULLEYS, PLATE 3510 BN



3510 BN

Diameter.	Face.	PRICE.	
		Single Belt.	Double Belt.
8	3	\$2.95	\$3.30
	4	3.15	3.55
	5	3.40	3.80
	6	3.70	4.20
	7	4.00	4.60
	8	4.30	4.95
9	3	3.00	3.45
	4	3.25	3.70
	5	3.50	3.95
	6	3.80	4.35
	7	4.10	4.80
	8	4.40	5.10
10	3	3.10	3.55
	4	3.35	3.85
	5	3.60	4.15
	6	3.90	4.50
	7	4.20	5.00
	8	4.50	5.30
	9	4.80	5.65
	10	5.15	6.00
11	3	3.25	3.80
	4	3.55	4.15
	5	3.85	4.55
	6	4.20	4.95
	7	4.55	5.35
	8	4.90	5.80
	9	5.25	6.20
	10	5.60	6.60
12	3	3.40	4.05
	4	3.70	4.40
	5	4.00	4.75
	6	4.30	5.10
	7	4.65	5.55
	8	5.00	6.00
	9	5.35	6.50
	10	5.70	7.00
	11	6.15	7.50
	12	6.70	8.00
13	3	3.55	4.30
	4	3.85	4.65
	5	4.15	5.00
	6	4.50	5.40
	7	4.85	5.80
	8	5.20	6.20
	9	5.55	6.65
	10	6.00	7.15

Diameter.	Face.	PRICE.		Diameter.	Face.	PRICE.		Diameter.	Face.	PRICE.	
		Single Belt.	Double Belt.			Single Belt.	Double Belt.			Single Belt.	Double Belt.
13	11	\$6.50	\$7.65	20	3	\$4.95	\$5.95	26	3	\$6.70	\$7.60
	12	7.00	8.25		4	5.35	6.40		4	7.05	8.10
14	3	3.75	4.50		5	5.80	7.15		5	7.60	8.95
	4	4.10	4.85		6	6.25	7.90		6	8.50	9.95
	5	4.45	5.25		7	6.70	8.65		7	9.45	10.95
	6	4.80	5.65		8	7.15	9.40		8	10.40	12.00
	7	5.20	6.10		9	7.65	10.15		9	11.30	12.95
	8	5.60	6.55		10	8.15	10.90		10	12.25	13.85
	9	6.10	7.05		11	8.70	11.65		11	13.20	14.90
	10	6.40	7.55		12	9.25	12.40		12	14.10	15.95
	11	6.80	8.05		14	10.65	14.00		14	16.30	18.25
	12	7.35	8.55		16	12.15	15.90		16	18.70	20.65
	14	8.35	9.85	21	3	5.10	6.15		18	21.10	23.05
15	3	3.95	4.75		4	5.50	6.60		20	23.60	25.60
	4	4.25	5.10		5	5.95	7.40	27	3	6.90	7.75
	5	4.60	5.50		6	6.40	8.20		4	7.30	8.25
	6	4.95	5.90		7	6.85	9.00		5	7.90	9.10
	7	5.30	6.35		8	7.30	9.80		6	8.85	10.10
	8	5.70	6.85		9	7.85	10.60		7	9.80	11.30
	9	6.10	7.35		10	8.40	11.40		8	10.75	12.50
	10	6.50	7.85		11	8.95	12.20		9	11.70	13.50
	11	7.00	8.35		12	9.50	13.00		10	12.70	14.50
	12	7.50	8.85		14	11.00	15.00		11	13.70	15.50
	14	8.60	10.10		16	13.00	17.00		12	14.60	16.50
16	3	4.15	5.05	22	3	5.25	6.35		14	16.90	19.00
	4	4.45	5.40		4	5.65	6.80		16	19.30	21.60
	5	4.80	5.75		5	6.10	7.65		18	21.60	23.90
	6	5.15	6.20		6	6.55	8.50		20	24.50	26.80
	7	5.50	6.65		7	7.00	9.35	28	3	7.20	8.00
	8	5.90	7.15		8	7.45	10.20		4	7.60	8.50
	9	6.30	7.65		9	8.00	11.05		5	8.35	9.35
	10	6.70	8.15		10	8.55	11.90		6	9.30	10.35
	11	7.20	8.65		11	9.10	12.75		7	10.25	11.50
	12	7.70	9.15		12	9.65	13.60		8	11.10	12.70
	14	8.95	10.45		14	11.75	15.80		9	12.05	13.85
	16	10.25	11.90		16	14.00	18.05		10	13.10	14.95
17	3	4.35	5.30	23	3	5.40	6.55		11	14.15	16.00
	4	4.65	5.65		4	5.80	7.00		12	15.15	17.15
	5	5.00	6.00		5	6.25	7.85		14	17.40	19.75
	6	5.35	6.35		6	6.70	8.70		16	19.75	22.60
	7	5.75	6.80		7	7.15	9.55		18	22.60	25.50
	8	6.15	7.30		8	7.60	10.40		20	25.50	28.40
	9	6.65	7.80		9	8.15	11.25	29	3	7.45	8.20
	10	7.00	8.30		10	8.75	12.10		4	7.85	8.70
	11	7.50	8.80		11	9.35	12.95		5	8.65	9.60
	12	8.00	9.30		12	9.95	13.80		6	9.55	10.55
	14	9.25	10.80		14	12.25	16.15		7	10.50	11.85
	16	10.60	12.30		16	15.30	18.55		8	11.45	13.10
18	3	4.55	5.50	24	3	5.60	6.80		9	12.40	14.20
	4	4.85	5.85		4	6.00	7.20		10	13.50	15.30
	5	5.25	6.25		5	6.45	8.15		11	14.55	16.50
	6	5.65	6.65		6	7.00	9.00		12	15.60	17.85
	7	6.05	7.10		7	7.50	9.90		14	18.05	20.50
	8	6.50	7.65		8	8.10	10.80		16	20.65	23.45
	9	7.00	8.25		9	8.75	11.70		18	23.20	26.00
	10	7.55	8.90		10	9.40	12.60		20	26.30	29.15
	11	8.10	9.60		11	10.05	13.50	30	3	7.70	8.45
	12	8.65	10.30		12	10.70	14.40		4	8.10	8.95
	14	9.90	12.00		14	13.10	16.80		5	8.95	9.85
	16	11.30	13.70		16	16.20	19.20		6	9.80	10.85
	18	13.40	16.40	25	3	6.30	7.30		7	10.75	12.10
19	3	4.80	5.75		4	6.65	7.75		8	11.85	13.30
	4	5.20	6.20		5	7.30	8.70		9	12.85	14.65
	5	5.65	6.65		6	8.05	9.60		10	13.90	15.90
	6	6.05	7.10		7	9.00	10.65		11	15.00	17.20
	7	6.45	7.55		8	9.80	11.75		12	16.10	18.55
	8	6.95	8.30		9	10.35	12.45		14	18.75	21.20
	9	7.45	9.00		10	11.25	13.40		16	21.50	24.20
	10	8.00	9.75		11	12.30	14.40		18	24.30	27.10
	11	8.55	10.50		12	13.40	15.50	32	3	8.15	8.95
	12	9.10	11.30		14	15.60	17.50		4	8.60	9.40
	14	10.40	13.10		16	17.90	19.80		5	9.50	10.40
	16	11.80	14.90						6	10.40	11.45
									7	11.40	12.90

When ordering, specify if Pulleys are wanted to transmit power of Single, Double, or Triple Thickness leather belt. Prices on larger sizes furnished on application.



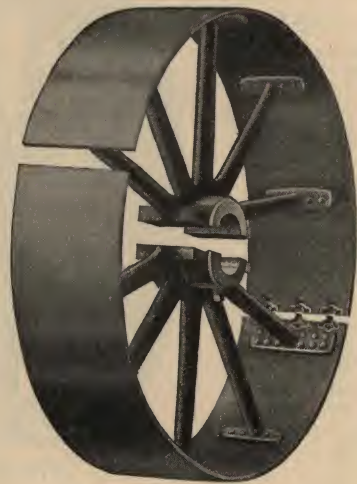
PATENT STEEL RIM WHOLE PULLEYS, PLATE 3510 BN

PRICE.				PRICE.				PRICE.				PRICE.			
Diameter.	Face.	Single Belt.	Double Belt.	Diameter.	Face.	Single Belt.	Double Belt.	Diameter.	Face.	Single Belt.	Double Belt.	Diameter.	Face.	Single Belt.	Double Belt.
32	8	\$12.50	\$14.25	38	14	\$25.30	\$28.50	46	20	\$49.60	\$56.55	56	6	\$23.50	\$26.50
	9	13.50	15.55		16	29.30	32.55		22	55.60	62.25		7	25.20	29.60
	10	14.60	16.85		18	33.30	36.70		24	61.60	71.30		8	27.70	32.80
	11	15.90	18.30		20	38.00	41.50						9	30.50	36.25
	12	17.25	19.70		22	42.70	48.00	48	4	13.60	14.70		10	33.30	39.50
	14	20.60	23.05		24	47.40	52.75		5	15.50	16.90		11	36.30	43.10
	16	24.00	26.50		26	52.10	57.45		6	17.50	19.00		12	39.30	46.80
	18	27.40	29.90		28	55.90	61.35		7	19.60	21.80		14	46.00	54.20
	20	30.80	33.30		30	60.70	67.55		8	21.70	24.80		16	53.50	61.80
									9	24.00	27.70		18	60.00	69.90
34	3	8.55	9.35	40	4	10.50	11.90		10	26.40	30.55		20	66.50	78.10
	4	9.00	9.85		5	11.85	13.40		11	28.90	33.35		22	74.20	86.40
	5	10.00	10.90		6	13.20	15.00		12	31.50	36.25		24	80.80	94.80
	6	11.00	12.05		7	15.00	17.35		14	36.50	41.95				
	7	12.20	13.40		8	16.90	19.30		16	41.50	48.05	58	6	25.00	28.25
	8	13.35	15.05		9	18.80	21.25		18	47.00	54.15		7	26.70	31.25
	9	14.45	16.55		10	20.70	23.50		20	52.50	60.35		8	29.20	34.50
	10	15.50	18.00		11	22.60	25.50		22	58.50	68.90		9	32.00	38.00
	11	16.90	19.55		12	24.50	27.70		24	64.50	74.95		10	35.00	41.60
	12	18.30	21.00		14	28.50	32.00		26	70.50	81.10		11	38.25	45.20
	14	22.10	24.80		16	32.50	36.90		28	76.50	87.10		12	41.50	49.10
	16	25.90	28.60		18	36.50	41.60		30	82.50	93.35		14	48.30	56.60
	18	29.70	32.40		20	40.50	46.00						16	55.80	64.50
	20	33.50	36.35		22	45.50	53.75	50	6	19.00	22.30		18	62.85	72.60
					24	50.50	59.10		7	20.70	25.20		20	70.00	81.10
36	3	9.05	9.90	42	4	11.35	12.55		8	23.00	28.10		22	77.70	90.00
	4	9.50	10.35		5	12.80	14.10		9	25.40	31.30		24	85.00	99.10
	5	10.50	11.50		6	14.35	15.95		10	28.15	34.70				
	6	11.60	12.70		7	16.20	18.30		11	30.95	38.20	60	6	26.50	30.00
	7	12.80	14.25		8	18.05	20.60		12	33.75	41.80		7	28.20	33.00
	8	14.00	16.05		9	20.00	22.70		14	39.40	48.50		8	30.70	36.25
	9	15.25	17.70		10	22.00	25.20		16	45.00	55.30		9	33.60	39.85
	10	16.45	19.25		11	24.00	27.40		18	50.65	62.20		10	36.80	43.55
	11	18.00	21.00		12	26.00	29.50		20	56.25	69.20		11	40.20	47.35
	12	19.60	22.50		14	30.00	34.40		22	62.90	76.40		12	43.60	52.25
	14	23.60	26.45		16	34.50	39.10		24	69.50	83.70		14	50.60	60.10
	16	27.60	30.45		18	39.00	44.60		26	76.10	91.10		16	58.10	68.10
	18	31.60	34.50		20	43.50	49.10		28	82.75	98.60		18	65.70	76.50
	20	35.60	38.85		22	48.50	56.70		30	89.35	106.20		20	73.40	85.20
	22	40.00	45.00		24	54.00	62.75		32	95.85	113.90		22	81.20	94.20
	24	44.40	49.40						34	102.50	121.70		24	89.00	103.50
									36	110.00	129.60				
37	4	9.75	10.60	44	4	12.10	13.25	52	6	20.50	23.50	62	6	28.40	31.90
	5	10.75	11.75		5	13.75	15.10		7	22.20	26.50		7	30.10	35.00
	6	11.90	13.05		6	15.50	16.85		8	24.60	29.50		8	32.60	38.40
	7	13.15	15.05		7	17.35	19.30		9	27.10	32.60		9	35.70	42.20
	8	14.50	16.65		8	19.35	22.00		10	29.90	35.80		10	39.10	46.10
	9	15.90	18.35		9	21.35	24.30		11	32.70	39.40		11	42.65	50.00
	10	17.35	20.00		10	23.40	26.80		12	35.50	43.00		12	46.25	54.00
	11	18.90	21.70		11	25.45	29.30		14	41.50	50.00		14	53.50	63.00
	12	20.45	23.55		12	27.50	31.65		16	47.50	57.10		16	61.20	72.20
	14	24.45	27.35		14	31.90	36.70		18	53.50	64.30		18	69.35	81.60
	16	28.45	31.35		16	36.50	42.50		20	59.50	72.00		20	77.50	91.10
	18	32.45	35.40		18	41.25	47.60		22	65.75	79.60		22	85.60	100.70
	20	36.45	39.65		20	46.25	52.60		24	72.00	87.10		24	93.75	110.60
	22	41.00	46.50		22	51.75	61.25								
	24	45.50	50.80		24	57.25	66.85								
	26	50.00	55.40					54	6	22.00	25.00	64	6	30.30	34.05
	28	54.50	60.25	46	4	12.85	13.90		7	23.70	28.05		7	32.00	37.05
	30	59.00	65.65		5	14.70	15.95		8	26.20	31.20		8	34.50	40.55
					6	16.65	18.00		9	28.80	34.45		9	37.80	44.65
38	4	10.00	10.90		7	18.60	20.50		10	31.60	37.70		10	41.50	48.85
	5	11.10	12.15		8	20.60	23.50		11	34.50	41.30		11	45.10	53.05
	6	12.25	13.50		9	22.65	26.05		12	37.40	44.90		12	48.90	57.35
	7	13.65	15.50		10	24.90	28.60		14	43.75	51.90		14	56.30	66.45
	8	15.10	17.20		11	27.25	31.10		16	50.50	59.00		16	64.30	76.00
	9	16.55	19.00		12	29.60	33.95		18	56.75	66.30		18	73.00	85.60
	10	18.00	20.85		14	34.00	39.40		20	63.00	73.80		20	81.50	95.40
	11	19.65	22.50		16	38.60	45.50		22	70.00	81.40		22	90.00	105.40
	12	21.30	24.50		18	44.10	51.00		24	76.40	89.40		24	98.50	115.60

When ordering, specify if Pulleys are wanted to transmit power of Single, Double, or Triple Thickness leather belt. Prices on larger sizes furnished on application.

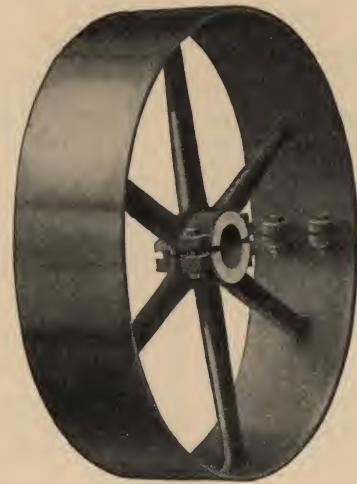


Steel Rim



3510 CN

Cast Iron Rim



3510 DN

SPLIT PULLEYS, PLATE 3510 CN AND PLATE 3510 DN

Additional List Prices to be Added to List Prices of Cast Iron or Steel Rim Whole Pulleys.

Face ..	3	4	5	6	7	8	9	10	11	12	14	16	18	20	22	24	26	28	30	32	34	36	
Diam., in.																							
6 to 11	\$1.00	\$1.15	\$1.25	\$1.45	\$1.60	\$1.75	\$1.90	\$2.05	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...	\$...
12 to 17	1.05	1.20	1.35	1.50	1.65	1.85	2.05	2.20	2.35	2.50	2.65	2.80	...	...	...	...	...	...	...	...	...	...	...
18 to 24	1.15	1.35	1.55	1.70	1.85	2.05	2.30	2.45	2.60	2.75	3.05	3.40	3.75	4.00	4.30	4.80	5.40	...	...	...	...	...	...
25 to 27	1.25	1.45	1.65	1.85	2.05	2.25	2.50	2.80	3.10	3.40	3.75	4.25	4.75	5.25	5.80	6.45	7.05	...	...	...	...	...	...
28 to 31	1.45	1.65	1.85	2.10	2.35	2.60	2.85	3.10	3.40	3.70	4.05	4.60	5.10	5.70	6.35	7.00	7.60	8.25	8.90	...	...	...	...
32 to 36	1.70	1.90	2.10	2.35	2.60	2.85	3.15	3.45	3.70	4.00	4.50	5.10	5.75	6.40	7.05	7.70	8.40	9.10	9.90	...	...	...	...
37 to 40	...	2.40	2.60	2.90	3.15	3.40	3.70	4.00	4.30	4.60	5.15	5.70	6.50	7.20	7.90	8.60	9.30	10.00	10.70	...	...	...	...
41 to 44	...	2.90	3.10	3.40	3.60	3.80	4.10	4.40	4.70	5.00	5.60	6.35	7.05	7.90	8.70	9.50	10.30	11.10	12.10	...	...	...	...
45 to 48	...	3.30	3.50	3.70	3.90	4.20	4.60	4.90	5.30	5.70	6.50	7.30	8.10	9.00	9.90	10.80	11.70	12.70	13.80	...	...	...	...
50 to 52	...	...	...	4.10	4.30	4.75	5.10	5.50	5.90	6.30	7.00	7.80	8.70	9.60	10.50	11.40	12.30	13.30	14.40	15.40	16.50	17.60	18.70
54 to 56	...	...	...	4.50	4.80	5.20	5.60	6.00	6.40	6.80	7.60	8.40	9.30	10.30	11.30	12.30	13.30	14.30	15.30	16.40	17.50	18.70	20.20
58 to 60	...	...	...	4.90	5.20	5.75	6.15	6.55	6.95	7.35	8.10	9.10	10.10	11.10	12.10	13.10	14.20	15.40	16.60	17.80	19.00	20.20	21.30
62 to 64	...	...	...	5.30	5.60	6.10	6.50	7.00	7.45	7.90	8.70	9.70	10.70	11.70	12.70	13.70	14.90	16.20	17.30	18.70	20.00	21.30	22.40
66 to 68	...	...	...	5.70	6.00	6.45	6.85	7.30	7.75	8.20	9.10	10.10	11.10	12.20	13.30	14.40	15.70	16.90	18.10	19.50	20.90	22.40	22.40

PLAIN TIGHT-AND-LOOSE PULLEYS

Additional list prices per pair to be added to list prices of Whole Pulleys, either Cast Iron or Steel Rim.

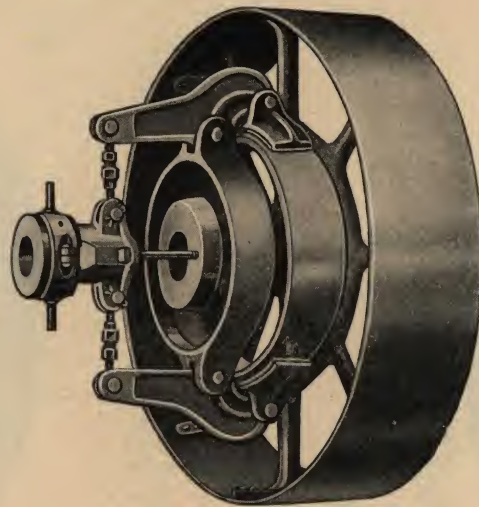
Face	3	4	5	6	7	8	9	10	11	12
1 ³ / ₁₆ bore	\$0.80	\$1.10	\$1.40	\$1.70	\$2.00	\$2.30	\$2.60	\$2.90	\$3.20	\$3.50
1 ⁷ / ₁₆ bore .....	.95	1.25	1.60	1.95	2.30	2.65	2.90	3.25	3.60	3.95
1 ¹¹ / ₁₆ bore	1.15	1.45	1.80	2.15	2.50	2.85	3.20	3.55	3.90	4.30
1 ¹⁵ / ₁₆ bore	1.30	1.65	2.00	2.35	2.70	3.05	3.40	3.75	4.20	4.70
2 ³ / ₁₆ bore	1.45	1.80	2.20	2.65	3.10	3.55	4.00	4.45	4.90	5.35
2 ⁷ / ₁₆ bore	1.60	2.05	2.50	2.95	3.40	3.85	4.30	4.75	5.20	5.65
2 ¹¹ / ₁₆ bore	1.80	2.25	2.70	3.15	3.60	4.05	4.50	4.95	5.40	5.90
2 ¹⁵ / ₁₆ bore	2.05	2.50	2.95	3.45	3.95	4.45	4.95	5.45	5.95	6.45

FLANGE PULLEYS

Diameter, inches	4 to 5	6 to 8	9 to 10	11 to 12	13 to 16	17 to 20	21 to 24
Height of flanges, inches	5/8	5/8	5/8	5/8	5/8	5/8	5/8
Wrought flange, each	\$...	\$1.40	\$2.40	\$2.90	\$3.20	\$3.60	\$4.00
Cast flange, each	1.00	1.40	1.70	1.90	2.20	2.80	3.35
Diameter, inches	25 to 28	29 to 32	33 to 36	37 to 40	41 to 44	45 to 48	
Height of flanges, inches	3/4	3/4	3/4	1	1	1	
Wrought flange, each	\$4.40	\$4.80	\$5.20	\$6.00	\$8.00	\$10.00	
Cast flange, each	3.90	4.80	5.20	6.00	8.00	10.00	

Above prices to be added to prices of plain pulleys and apply to flanges in center or on edge of pulley.

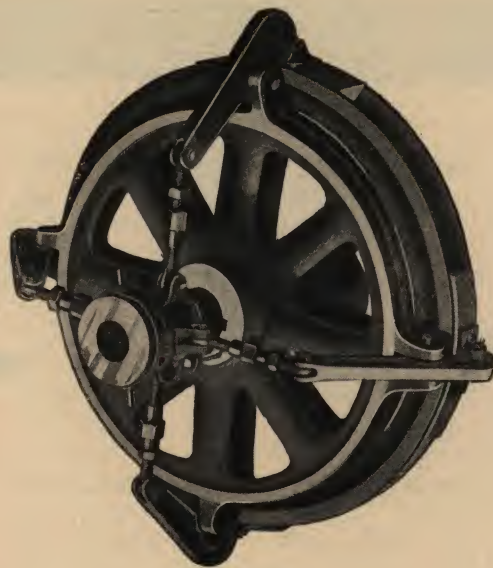
We are prepared to furnish pulleys with flanges on one or both sides or with flange in center.



3510 FN

FRICITION CLUTCH PULLEYS, PLATE 3510 FN
Fitted with Straight Ring Clutch

Diameter.	Face.	Space on Shaft.	PRICE.		Diameter.	Face.	Space on Shaft.	PRICE.		Diameter.	Face.	Space on Shaft.	PRICE.		
			Single Belt.	Double Belt.				Single Belt.	Double Belt.				Single Belt.	Double Belt.	
10	3	17	\$26.40	\$26.80	18	14	28	\$57.00	\$64.20	28	4	18	\$51.00	\$53.50	
	4	18	27.50	28.00		16	30	61.50	71.30		5	19	56.00	59.50	
	5	19	28.70	30.20		20	4	18	35.30		35.90	6	20	61.50	67.00
	6	20	30.50	32.70			5	19	37.80		40.40	8	22	67.00	73.00
11	3	17	27.10	27.50	22	4	18	37.80	38.50	30	4	18	55.50	58.50	
	4	18	28.20	28.60		5	19	41.40	43.60		5	19	59.00	63.50	
	5	19	29.50	30.80		6	20	45.50	49.00		6	20	64.00	70.00	
	6	20	31.30	34.00		8	22	50.00	54.50		8	22	70.00	76.50	
12	3	17	27.90	28.30	24	4	18	42.30	43.50	32	4	18	58.00	61.50	
	4	18	29.00	29.40		5	19	46.70	49.10		5	19	63.00	67.50	
	5	19	30.30	32.00		6	20	51.50	55.00		6	20	69.00	76.00	
	6	20	32.40	35.40		8	22	57.00	61.00		8	22	74.00	82.00	
14	3	17	29.40	29.80	26	4	18	46.00	48.50	34	4	18	61.50	65.50	
	4	18	30.70	31.10		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	32.40	34.50		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	35.50	38.00		8	22	64.00	69.25		8	22	78.00	86.00	
16	3	17	31.00	31.40	28	4	18	48.50	48.50	36	4	18	65.50	65.50	
	4	18	32.40	32.90		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	35.00	36.70		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	39.00	40.70		8	22	64.00	69.25		8	22	78.00	86.00	
18	3	17	32.30	32.80	30	4	18	46.00	48.50	38	4	18	61.50	65.50	
	4	18	33.90	34.40		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	36.00	38.50		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	40.00	42.60		8	22	64.00	69.25		8	22	78.00	86.00	
20	3	17	33.60	34.10	32	4	18	48.50	48.50	40	4	18	61.50	65.50	
	4	18	35.20	35.70		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	37.30	39.80		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	41.30	43.90		8	22	64.00	69.25		8	22	78.00	86.00	
22	3	17	34.90	35.40	34	4	18	48.50	48.50	42	4	18	61.50	65.50	
	4	18	36.50	37.00		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	38.60	41.10		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	42.60	45.20		8	22	64.00	69.25		8	22	78.00	86.00	
24	3	17	36.20	36.70	36	4	18	48.50	48.50	44	4	18	61.50	65.50	
	4	18	37.80	38.30		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	39.90	42.40		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	43.90	46.50		8	22	64.00	69.25		8	22	78.00	86.00	
26	3	17	37.50	38.00	38	4	18	48.50	48.50	46	4	18	61.50	65.50	
	4	18	39.10	39.60		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	41.20	43.70		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	45.20	47.80		8	22	64.00	69.25		8	22	78.00	86.00	
28	3	17	38.80	39.30	40	4	18	48.50	48.50	48	4	18	61.50	65.50	
	4	18	40.40	40.90		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	42.50	45.00		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	46.50	49.10		8	22	64.00	69.25		8	22	78.00	86.00	
30	3	17	40.10	40.60	42	4	18	48.50	48.50	50	4	18	61.50	65.50	
	4	18	41.70	42.20		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	43.80	46.30		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	47.80	50.40		8	22	64.00	69.25		8	22	78.00	86.00	
32	3	17	41.40	41.90	44	4	18	48.50	48.50	52	4	18	61.50	65.50	
	4	18	43.00	43.50		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	45.10	47.60		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	49.10	51.70		8	22	64.00	69.25		8	22	78.00	86.00	
34	3	17	42.70	43.20	46	4	18	48.50	48.50	54	4	18	61.50	65.50	
	4	18	44.30	44.80		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	46.40	48.90		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	50.40	53.00		8	22	64.00	69.25		8	22	78.00	86.00	
36	3	17	44.00	44.50	48	4	18	48.50	48.50	56	4	18	61.50	65.50	
	4	18	45.60	46.10		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	47.70	50.20		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	51.70	54.30		8	22	64.00	69.25		8	22	78.00	86.00	
38	3	17	45.30	45.80	50	4	18	48.50	48.50	58	4	18	61.50	65.50	
	4	18	46.90	47.40		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	49.00	51.50		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	53.00	55.60		8	22	64.00	69.25		8	22	78.00	86.00	
40	3	17	46.60	47.10	52	4	18	48.50	48.50	60	4	18	61.50	65.50	
	4	18	48.20	48.70		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	50.30	52.80		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	54.30	56.90		8	22	64.00	69.25		8	22	78.00	86.00	
42	3	17	47.90	48.40	54	4	18	48.50	48.50	62	4	18	61.50	65.50	
	4	18	49.50	50.00		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	51.60	54.10		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	55.60	58.20		8	22	64.00	69.25		8	22	78.00	86.00	
44	3	17	49.20	49.70	56	4	18	48.50	48.50	64	4	18	61.50	65.50	
	4	18	50.80	51.30		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	52.90	55.40		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	56.90	59.50		8	22	64.00	69.25		8	22	78.00	86.00	
46	3	17	50.50	51.00	58	4	18	48.50	48.50	66	4	18	61.50	65.50	
	4	18	52.10	52.60		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	54.20	56.70		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	58.20	60.80		8	22	64.00	69.25		8	22	78.00	86.00	
48	3	17	51.80	52.30	60	4	18	48.50	48.50	68	4	18	61.50	65.50	
	4	18	53.40	53.90		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	55.50	58.00		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	59.50	62.10		8	22	64.00	69.25		8	22	78.00	86.00	
50	3	17	53.10	53.60	62	4	18	48.50	48.50	70	4	18	61.50	65.50	
	4	18	54.70	55.20		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	56.80	59.30		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	60.80	63.40		8	22	64.00	69.25		8	22	78.00	86.00	
52	3	17	54.40	54.90	64	4	18	48.50	48.50	72	4	18	61.50	65.50	
	4	18	56.00	56.50		5	19	52.00	55.00		5	19	66.50	72.50	
	5	19	58.10	60.60		6	20	58.00	62.00		6	20	72.50	80.00	
	6	20	62.10	64.70		8	22	64.00	69.25		8	22	78.00	86.00	
54	3	17	55.70	56.20	66	4	18	48.50	48.50	74	4	18	61.50	65.50	
	4	18	57.30	57.80		5	19	52.00	55.00		5				



3510 GN

FOUR-ARM FRICTION CLUTCH COUPLINGS, PLATE 3510 GN

Diam. of Shaft.	Diameter of Clutch.	Space on Shaft.		Horse Power at 100 Revs.	PRICE.		Diam. of Shaft.	Diameter of Clutch.	Space on Shaft.		Horse Power at 100 Revs.	PRICE.	
		Sheave Side.	Lever Side.		Not Fitted on Shaft.	Fitted on Shaft.			Sheave Side.	Lever Side.		Not Fitted on Shaft.	Fitted on Shaft.
1 $\frac{3}{16}$	10	3 $\frac{1}{2}$	13	3	\$ 37.10	\$ 41.00	3 $\frac{3}{16}$	20	5 $\frac{1}{2}$	18	25	\$82.00	\$88.70
1 $\frac{7}{16}$	10	4	15 $\frac{1}{2}$	3	38.90	42.80		24	6	18	35	92.30	98.90
	12*	4	15 $\frac{1}{2}$	6	41.90	45.80		28	6	18	55	103.00	109.70
1 $\frac{11}{16}$	10	4	15 $\frac{1}{2}$	3	41.75	46.50	3 $\frac{7}{16}$	16	5 $\frac{1}{2}$	17	15	75.40	82.40
	12*	4	15 $\frac{1}{2}$	6	44.80	49.50		18	6	18	20	80.50	87.50
	14	4	15 $\frac{1}{2}$	10	48.85	53.55		20	6	18	25	86.00	93.00
1 $\frac{15}{16}$	12	4	15 $\frac{1}{2}$	6	47.70	53.55		24	6	18 $\frac{1}{2}$	35	96.75	104.50
	14*	4	15 $\frac{1}{2}$	10	51.75	57.60		26	6 $\frac{1}{2}$	19	45	102.00	110.00
	16	4 $\frac{1}{2}$	16	15	55.90	61.75		28*	6 $\frac{1}{2}$	19	55	108.00	116.00
	18	4 $\frac{1}{2}$	17	20	59.80	65.65	3 $\frac{11}{16}$	20	6	18	25	96.00	104.00
2 $\frac{3}{16}$	12	4	15 $\frac{1}{2}$	6	51.60	57.50		22	6	18 $\frac{1}{2}$	30	100.00	108.00
	14	4	15 $\frac{1}{2}$	10	55.65	61.50		24	6	18 $\frac{1}{2}$	35	105.00	113.00
	16*	4 $\frac{1}{2}$	16	15	59.80	65.65		26	6 $\frac{1}{2}$	19	45	110.00	118.00
	18	4 $\frac{1}{2}$	17	20	63.70	69.55		28	6 $\frac{1}{2}$	19	55	115.00	125.00
	20	4 $\frac{1}{2}$	17	25	67.90	73.75	3 $\frac{15}{16}$	20	6	18	25	101.00	109.00
2 $\frac{7}{16}$	14	4 $\frac{1}{2}$	15 $\frac{1}{2}$	10	59.50	65.35		22	6	18 $\frac{1}{2}$	30	105.00	113.00
	16	4 $\frac{1}{2}$	16	15	62.75	68.60		24	6	18 $\frac{1}{2}$	35	111.00	119.00
	18*	4 $\frac{1}{2}$	17	20	66.80	72.65		26	6 $\frac{1}{2}$	19	45	117.00	125.00
	20	4 $\frac{1}{2}$	17	25	71.20	77.00		28	6 $\frac{1}{2}$	19	55	122.00	132.00
2 $\frac{11}{16}$	14	4 $\frac{1}{2}$	16	10	62.50	68.75		30	7	19	65	128.00	138.00
	16	4 $\frac{1}{2}$	16	15	65.65	71.90	4 $\frac{3}{16}$	20	6	18	25	108.00	116.00
	18	5	17	20	70.00	76.25		22	6	18 $\frac{1}{2}$	30	112.00	120.00
	20*	5	17	25	74.50	80.75		24	6	18 $\frac{1}{2}$	35	117.00	127.00
	22	5	17	30	78.80	85.00		26	6 $\frac{1}{2}$	19	45	122.00	132.00
	24	5 $\frac{1}{2}$	17	35	83.50	89.75		28	6 $\frac{1}{2}$	19	55	128.00	140.00
2 $\frac{15}{16}$	16	4 $\frac{1}{2}$	16	15	69.60	75.85		30	7	19	65	134.00	146.00
	18	5	17	20	73.50	79.75	4 $\frac{7}{16}$	20	6 $\frac{1}{2}$	19	25	115.00	123.00
	20	5 $\frac{1}{2}$	18	25	78.60	84.85		22	6 $\frac{1}{2}$	19	30	118.00	126.00
	24*	5 $\frac{1}{2}$	18	35	88.00	94.25		24	6 $\frac{1}{2}$	19	35	122.00	132.00
	26	6	18	45	93.00	99.25		26	6 $\frac{1}{2}$	19	45	128.00	138.00
	28	6	18	55	98.70	105.00		28	7	19 $\frac{1}{2}$	55	134.00	146.00
3 $\frac{3}{16}$	16	5	16 $\frac{1}{2}$	15	71.50	78.10		30	7	19 $\frac{1}{2}$	65	141.00	153.00
	18	5 $\frac{1}{2}$	17	20	76.60	83.30		32	7	19 $\frac{1}{2}$	75	156.00	168.00

Lever included in above mentioned prices.

Couplings marked "*" will transmit the full power of shaft under ordinary conditions when the bearings are from 8 to 10 feet apart.

Special prices made for reducing friction clutch couplings.

Fulcrum stands are not included in these prices.

We can furnish split friction clutch couplings at a moderate advance in price over whole clutches.



3510 HN

STEEL SHAFTING, PLATE 3510 HN

Diameter, inches	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ³ / ₁₆	3 ⁷ / ₁₆
Per foot	\$0.20 ³ / ₄	\$0.30 ³ / ₄	\$0.40	\$0.52 ³ / ₄	\$0.64	\$0.79 ¹ / ₂	\$0.96 ¹ / ₂	\$1.15 ¹ / ₄	\$1.49 ¹ / ₂	\$1.73 ¹ / ₄
Diameter, inches		3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ³ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	5 ³ / ₁₆	5 ⁷ / ₁₆	5 ¹⁵ / ₁₆
Per foot		\$2.09 ¹ / ₄	\$2.37 ¹ / ₄	\$2.84 ¹ / ₂	\$3.15 ³ / ₄	\$3.81 ¹ / ₄	\$4.25 ³ / ₄	\$5.03	\$5.52 ³ / ₄	\$7.29 ¹ / ₂



3510 IN



3510 KN

SINGLE BRACE DROP HANGERS AND FLOOR STANDS, PLATE 3510 IN

(Wick Oiling)

Diameter shaft, inches	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ³ / ₁₆	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆
Length of bearings, inches	5	6	7	8	9	10	11	12	12	12 ¹ / ₂	13	14
Drop to inches, 8	\$2.50	\$2.90	\$3.60	\$4.55	\$5.10	\$...	\$...	\$...	\$...	\$...	\$...	\$...
Drop to inches, 10	2.65	3.10	3.80	4.85	5.40	6.90	8.05	9.35	11.60	13.30	15.05	16.75
Drop to inches, 12	2.80	3.30	4.00	5.15	5.70	7.25	8.45	9.75	12.00	13.80	15.55	17.25
Drop to inches, 14	2.95	3.50	4.20	5.45	6.00	7.60	8.85	10.15	12.40	14.30	16.05	17.75
Drop to inches, 16	3.10	3.70	4.40	5.75	6.30	7.95	9.25	10.55	12.80	14.80	16.65	18.25
Drop to inches, 18	3.25	3.90	4.60	6.05	6.60	8.30	9.65	10.95	13.20	15.30	17.05	18.75
Drop to inches, 20	...	4.10	4.85	6.35	6.90	8.65	10.05	11.35	13.60	15.80	17.55	19.25
Drop to inches, 22	...	4.30	5.10	6.65	7.20	9.00	10.45	11.75	14.00	16.30	18.05	19.75
Drop to inches, 24	...	4.50	5.35	6.95	7.50	9.35	10.85	12.15	14.50	16.80	18.55	20.25

DOUBLE BRACE DROP HANGERS AND FLOOR STANDS, PLATE 3510 KN

Diameter shaft, inches		1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ³ / ₁₆
Length of bearings, inches		6	7	8	9	10	11	12	12
Drop to inches, 10		\$5.70	\$6.05	\$6.90	\$7.50	\$9.60	\$10.10	\$11.70	\$12.90
Drop to inches, 12		5.85	6.20	7.10	7.70	9.80	10.30	11.90	13.15
Drop to inches, 14		6.00	6.35	7.30	7.90	10.00	10.50	12.10	13.45
Drop to inches, 16		6.20	6.55	7.50	8.10	10.20	10.70	12.30	13.75
Drop to inches, 18		6.40	6.75	7.70	8.30	10.40	10.90	12.50	14.05
Drop to inches, 20		6.60	6.95	7.90	8.50	10.60	11.10	12.75	14.35
Drop to inches, 22		...	7.15	8.10	8.70	10.80	11.30	13.00	14.65
Drop to inches, 24		...	7.35	8.30	8.90	11.05	11.55	13.25	14.95
Drop to inches, 27		...	...	9.90	10.50	12.65	13.05	14.90	16.65
Drop to inches, 30		...	...	11.55	12.15	14.30	14.65	16.50	18.25
Drop to inches, 36		...	...	14.75	15.35	17.50	17.85	19.75	21.50
Diameter shaft, inches		3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ³ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	
Length of bearings, inches		12 ¹ / ₂	13	14	15	15	16	16	
Drop to inches, 10		\$14.10	\$16.80	\$19.40	\$...	\$...	\$...	\$...	
Drop to inches, 12		14.45	17.20	19.85	...	...	...	...
Drop to inches, 14		14.80	17.60	20.30	23.00	25.45	29.95	34.30	
Drop to inches, 16		15.20	18.00	20.75	23.60	26.15	30.80	35.30	
Drop to inches, 18		15.60	18.45	21.20	24.15	26.85	31.65	36.30	
Drop to inches, 20		16.00	18.90	21.70	24.80	27.60	32.50	37.30	
Drop to inches, 22		16.40	19.35	22.20	25.40	28.35	33.40	38.30	
Drop to inches, 24		16.80	19.75	22.70	26.05	29.10	34.25	39.30	
Drop to inches, 27		18.45	21.40	24.40	28.05	31.10	36.50	41.80	
Drop to inches, 30		20.05	23.10	26.10	30.05	33.10	38.75	44.30	
Drop to inches, 36		23.30	26.45	29.50	34.05	37.10	43.25	49.30	

Always specify when to be used as floor stands.



3510 LN



3510 MN



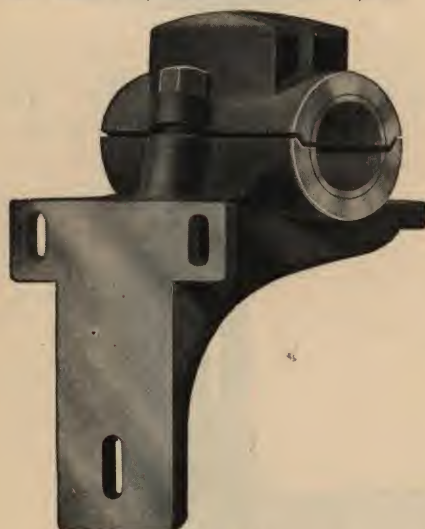
3510 PN

ADJUSTABLE POST HANGERS, PLATE 3510 LN AND PLATE 3510 MN
(Wick Oiling)

Diameter shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ¹ / ₁₆	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆
Length of bearing, inches.....	6	6	7	8	9	10	11	12	12	12 ¹ / ₂	13	14
Plate 3510 LN, screw hangers...	\$3.20	\$3.50	\$4.05	\$4.90	\$5.75	\$7.00	\$ 8.40	\$10.10	\$11.90	\$13.75	\$16.10	\$18.50
Plate 3510 MN, ball and socket hangers.....	4.45	4.75	5.30	6.40	7.25	8.50	10.15	11.85	13.65	15.75	18.10	20.50

RIGID POST HANGERS, PLATE 3510 PN

Diameter shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ¹ / ₁₆	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆
Length of bearing, inches.....	4 ¹ / ₂	5	6	7	7 ¹ / ₂	8	8 ¹ / ₂	9	9 ¹ / ₂	10	11	12
Plate 3510 PN, each.....	\$2.95	\$3.30	\$4.10	\$4.80	\$5.60	\$6.40	\$7.70	\$8.90	\$10.20	\$12.70	\$15.00	\$16.60



3511 AN



3511 BN



3511 CN

BRACKET PILLOW BLOCKS, PLATE 3511 AN

Diameter of shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ¹ / ₁₆	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆
Length of bearing, inches.....	4 ¹ / ₂	5	6	7	7 ¹ / ₂	8	8 ¹ / ₂	9	9 ¹ / ₂	10	11	12
Each	\$1.90	\$2.30	\$2.90	\$3.70	\$4.50	\$5.50	\$6.70	\$7.10	\$8.00	\$10.20	\$12.50	\$14.00

RIGID PILLOW BLOCKS, PLATE 3511 BN

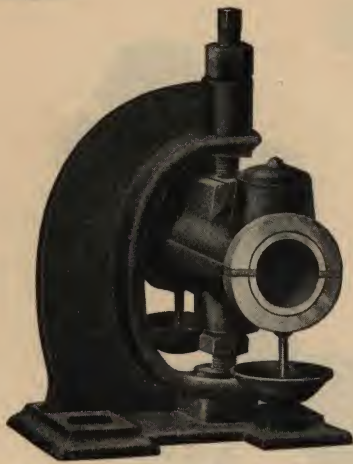
Diameter of shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ¹ / ₁₆	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆
Length of bearing, inches.....	4 ¹ / ₂	5	6	7	7 ¹ / ₂	8	8 ¹ / ₂	9	9 ¹ / ₂	10	11	12
Without base plate, each.....	\$1.40	\$1.60	\$2.10	\$2.75	\$3.20	\$3.80	\$4.45	\$5.25	\$6.05	\$6.95	\$8.10	\$9.50
With base plate, each.....	3.00	3.50	4.60	5.60	6.05	6.95	8.10	9.50				
Diameter of shaft, inches.....	3 ¹ / ₁₆	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ¹ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	4 ³ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆
Length of bearing, inches.....	9 ¹ / ₂	10	11	12	13	13	14 ³ / ₄	14 ³ / ₄	13	13	14 ³ / ₄	14 ³ / ₄
Without base plate, each.....	\$ 5.60	\$ 7.75	\$ 9.20	\$10.60	\$13.40	\$14.45	\$22.40	\$23.00	\$13.40	\$14.45	\$22.40	\$23.00
With base plate, each.....	10.00	12.25	14.75	16.15	19.55	21.15	30.40	31.90				

We can furnish vertical pillow blocks at same price.

BALL AND SOCKET PILLOW BLOCKS, PLATE 3511 CN

(Wick Oiling)

Diameter of shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆
Length of bearing, inches.....	6	6	7	8	9	10	11	12
Without base plate, each.....	\$3.20	\$3.60	\$4.30	\$5.60	\$ 6.65	\$ 7.75	\$ 9.30	\$10.80
With base plate, each.....	5.25	5.65	7.15	9.20	10.35	12.35	14.15	15.80
Diameter of shaft, inches.....	3 ¹ / ₁₆	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ¹ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆
Length of bearing, inches.....	12	12 ¹ / ₂	14	14	15	15	16	16
Without base plate, each.....	\$11.55	\$12.65	\$15.20	\$16.40	\$20.00	\$21.00	\$24.75	\$26.15
With base plate, each.....	16.55	18.55	21.55	22.75	27.60	28.50	33.45	34.85



3511 DN



3511 EN



3511 FN

ADJUSTABLE PILLOW BLOCKS, PLATE 3511 DN

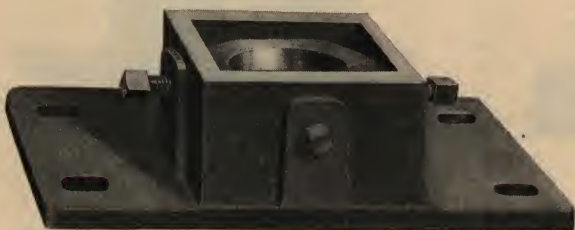
Diameter of shaft, inches.....	1 3/16	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 3/16	3 7/16	3 11/16	3 15/16
Length of bearing, inches.....	6	6	7	8	9	10	11	12	12	12 1/2	13	14
Each	\$4.00	\$4.70	\$5.50	\$6.30	\$7.50	\$8.60	\$9.80	\$11.00	\$12.80	\$14.50	\$16.50	\$18.00

COMMON FLAT BOXES, PLATE 3511 EN

Diameter of shaft, inches..	1	1 3/16	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 3/16	3 7/16	3 11/16	3 15/16
Length of bearing, inches .	3	3 1/2	3 1/2	4	4	4 1/2	4 1/2	4 3/4	5	5 1/2	5 1/2	6	6
Each.....	\$0.90	\$1.00	\$1.10	\$1.30	\$1.50	\$1.90	\$2.20	\$2.70	\$3.20	\$3.75	\$4.20	\$5.00	\$6.00

SOLID JOURNAL BOXES, PLATE 3511 FN

Diameter of shaft, inches.....	1	1 3/16	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 3/16	3 7/16	3 11/16	3 15/16
Length of bearing, inches.....		2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	4 1/4	4 1/2	4 3/4	4 1/2	4 1/2
Each		\$0.70	\$0.80	\$1.00	\$1.20	\$1.40	\$1.60	\$1.80	\$2.00	\$2.40	\$2.80	\$3.20	\$3.60



3511 GN



3511 HN



3511 KN

STEP BOXES, PLATE 3511 GN

Diameter of shaft, inches.....	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 3/16	3 7/16	3 11/16	3 15/16
Each	\$6.60	\$7.40	\$8.50	\$9.60	\$11.25	\$13.50	\$15.75	\$19.75			
Diameter of shaft, inches.....	3 7/16	3 11/16	3 15/16	4 3/16	4 7/16	4 11/16	4 15/16				
Each	\$24.00	\$26.00	\$30.00	\$33.50	\$39.50	\$45.50	\$52.50				

CAST IRON PULLEY BUSHINGS (Not Illustrated)

Outside diameter, inches.....	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 3/16	3 7/16	3 11/16	3 15/16
Inside diameter, inches	From.....	1 3/16	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 3/16	3 7/16
	To.....	1	1	1 1/16	1 1/16	1 11/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16
Solid, per pair.....	\$0.30	\$0.35	\$0.40	\$0.45	\$0.50	\$0.60	\$0.75	\$1.00	\$1.20	\$1.35	\$1.50
Split, per pair.....	.45	.50	.55	.60	.70	.85	1.00	1.30	1.55	1.70	1.85

TAKE-UP BOXES, PLATE 3511 HN AND PLATE 3511 KN

Number	1	2	3	4	5	6	7	8	9
Diameter shaft, inches.....	1 3/16	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 3/16
Length of bearing, inches	3	4	4	4 1/2	5	5	6	7	10
Length of adjustment, inches	6	8 1/2	8 1/2	10	12 1/2	12 1/2	12 1/2	12 1/2	19 1/2
Plate 3511 HN and Plate 3511 KN, each.....	\$2.70	\$3.25	\$4.00	\$4.75	\$6.00	\$7.50	\$10.50	\$13.00	\$14.00



Square Jaw.



3511 LN

Spiral Jaw, Right Hand.



3511 MN

Spiral Jaw, Left Hand.



3511 PN

DENTAL COUPLINGS, PLATES 3511 LN TO 3511 PN
With Spiral or Square Jaw, Accurately Bored, Turned on Outside.

Diameter of shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ³ / ₁₆
Not fitted.....	\$ 8.75	\$ 9.60	\$10.70	\$12.70	\$14.90	\$17.75	\$20.50	\$24.00	\$28.00
Fitted on shaft.....	14.25	15.35	16.90	19.40	22.00	25.25	29.00	33.00	38.50
Lever.....	3.80	4.60	4.60	6.50	6.50	8.80	8.90	8.90	9.00
Diameter of shaft, inches.....	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ³ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	5 ⁷ / ₁₆	5 ¹⁵ / ₁₆
Not fitted.....	\$36.00	\$44.00	\$53.00	\$62.00	\$72.00	\$80.00	\$88.00	\$96.00	\$115.00
Fitted on shaft.....	48.00	56.50	66.50	77.00	89.00	99.00	109.00	119.00	142.00
Lever.....	9.00	9.00	9.25	9.50	9.50	9.50	12.60	12.60	12.60



3511 QN



3511 RN



3511 SN

PLAIN SET COLLARS, PLATE 3511 QN

Diameter of shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ³ / ₁₆
Each.....	\$0.25	\$0.30	\$0.35	\$0.40	\$0.50	\$0.55	\$0.65	\$0.75	\$0.90
Diameter of shaft, inches.....	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ³ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	5 ⁷ / ₁₆	5 ¹⁵ / ₁₆
Each.....	\$1.95	\$2.10	\$2.30	\$2.50	\$2.70	\$3.20	\$3.90	\$4.50	\$5.30

SAFETY SET COLLAR, PLATE 3511 RN

Diameter of shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ³ / ₁₆
Whole.....	0.40	\$0.45	\$0.50	\$0.70	\$0.80	\$0.95	\$1.05	\$1.20	\$1.35
Split.....	.60	.70	.75	1.05	1.20	1.45	1.60	1.80	2.05
Diameter of shaft, inches.....	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ³ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	5 ⁷ / ₁₆	5 ¹⁵ / ₁₆
Whole.....	\$1.60	\$1.90	\$2.10	\$3.00	\$3.50	\$4.00	\$4.70	\$5.50	\$6.50
Split.....	2.40	2.85	3.15	4.50	5.25	6.00	7.05	8.25	9.75

HOLLOW SCREW COLLARS, PLATE 3511 SN

Diameter of shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ³ / ₁₆
Each.....	\$0.30	\$0.35	\$0.40	\$0.45	\$0.55	\$0.60	\$0.70	\$0.80	\$1.00
Diameter of shaft, inches.....	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ³ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	5 ⁷ / ₁₆	5 ¹⁵ / ₁₆
Each.....	\$1.20	\$1.50	\$1.90	\$2.30	\$2.80	\$3.30	\$4.00	\$4.60	\$5.40

Compression Couplings.



3511 TN



3511 UN

IMPROVED COMPRESSION COUPLINGS, PLATE 3511 TN

Diameter of shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆
Not fitted.....	\$3.50	\$4.20	\$5.00	\$6.00	\$ 8.00	\$ 8.75	\$10.00	\$11.00
Fitted.....	4.70	5.50	6.50	7.50	10.00	11.50	13.00	14.00
Diameter of shaft, inches.....	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ³ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	
Not fitted.....	\$14.00	\$15.50	\$17.75	\$23.25	\$26.00	\$31.00	\$35.50	\$42.00
Fitted.....	17.00	19.00	21.25	27.00	30.00	35.00	40.00	47.00

For reducing Compression Couplings use the list of coupling of size of largest end.
Intermediate sizes at proportionate prices. All sizes from 2³/₁₆ inches up are provided with a key and steel pins without extra charge; the smaller sizes do not require keys.

FLANGED FACE COUPLINGS, PLATE 3511 UN

Diameter of shaft, inches.....	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ¹⁵ / ₁₆	2 ³ / ₁₆	2 ⁷ / ₁₆	2 ¹¹ / ₁₆	2 ¹⁵ / ₁₆	3 ³ / ₁₆
Not fitted.....	\$5.50	\$ 6.00	\$ 7.40	\$ 8.80	\$10.10	\$11.40	\$12.70	\$14.00	\$17.00
Fitted to shaft.....	8.00	8.50	10.15	11.80	13.35	14.90	16.45	18.00	21.50
Diameter of shaft, inches.....	3 ⁷ / ₁₆	3 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	4 ³ / ₁₆	4 ⁷ / ₁₆	4 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	5 ⁷ / ₁₆	5 ¹⁵ / ₁₆
Not fitted.....	\$20.00	\$23.00	\$26.00	\$29.50	\$33.00	\$36.50	\$40.00	\$47.00	\$54.00
Fitted to shaft.....	25.00	28.50	32.00	36.50	41.00	45.50	50.00	59.50	65.00

Intermediate sizes, proportionate prices. For reducing flange couplings take list of largest size, viz., 2¹¹/₁₆x2¹⁵/₁₆, use 2¹⁵/₁₆ list.



3511 VN

SWINGING BELT TIGHTENER, PLATE 3511 VN

Width of belt, inches.....	4	6	8	10	12	16	20	24
Size of pulley, inches.....	10x5	10x7	12x9	14x11	18x13	20x17	24x21	30x25
Length of frame, 3 feet.....	\$29.00	\$30.00	\$36.00	\$40.00	\$53.00	\$65.00	\$ 88.00	\$120.00
Length of frame, 4 feet.....	31.00	32.00	39.00	43.00	57.00	69.00	95.00	127.00
Length of frame, 5 feet.....	33.00	34.00	42.00	46.00	61.00	72.00	102.00	134.00
Length of frame, 6 feet.....	35.00	36.00	45.00	49.00	66.00	77.00	109.00	141.00
Size of shaft, inches.....	1 $\frac{3}{16}$	1 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{7}{16}$	1 $\frac{1}{2}$	1 $\frac{1}{4}$	1 $\frac{5}{16}$	1 $\frac{3}{4}$

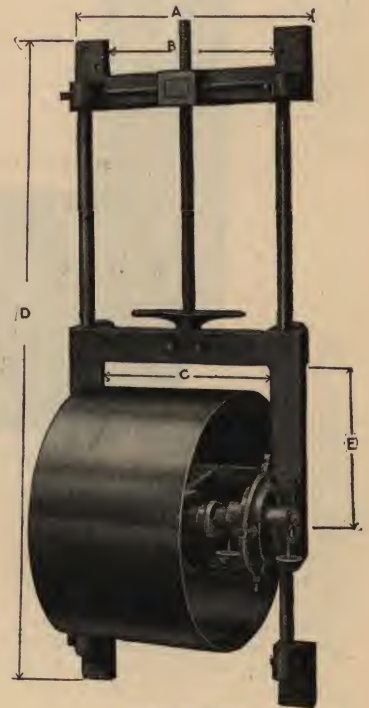
Iron frame—complete with double-belt pulley and adjustable self-oiling bearings.

SLIDING BELT TIGHTENER, PLATE 3511 WN

(Patented.)

Number	1	2	3	4	5	6	7	8
Size of pulley, inches.....	12x9	14x11	18x13	20x17	24x21	20x25	36x31	40x37
Length of adjustment, inches...	20	22	24	26	30	34	40	46
Each	\$49.00	\$54.00	\$70.00	\$80.00	\$112.00	\$145.00	\$197.00	\$270.00
Dimensions, inches. {	A.....	18	20 $\frac{1}{4}$	24 $\frac{1}{4}$	27	31	34	.....
	B.....	11 $\frac{1}{2}$	13 $\frac{3}{4}$	17	20	24	27	.....
	C.....	11 $\frac{1}{2}$	13 $\frac{3}{4}$	17	20	24	27	.....
	D.....	51 $\frac{1}{4}$	56	65	67 $\frac{1}{2}$	79	81	.....
	E.....	10 $\frac{1}{4}$	12	15	15	18 $\frac{1}{2}$	18 $\frac{1}{2}$	.....
Pulley shaft diameter, inches...	1 $\frac{7}{16}$	1 $\frac{1}{2}$	1 $\frac{1}{16}$	1 $\frac{1}{16}$	1 $\frac{3}{16}$	2 $\frac{3}{16}$	2 $\frac{7}{16}$	2 $\frac{11}{16}$

Iron frame, adjustable—complete with double-belt pulley and self-oiling babbitted bearings.



3511 WN



DETACHABLE LINK BELTING, PLATE 3511 XN



Plate 3511 XN

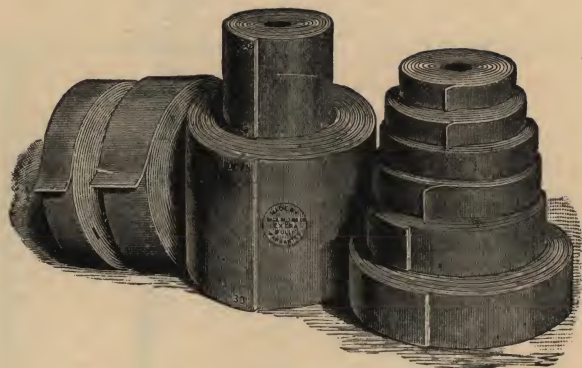
No.	Price per Foot All Plain Links	Number Links per Foot	Working Strain	No.	Price per Foot All Plain Links	Number Links per Foot	Working Strain
25	\$0.15	13.3	75	77	\$0.28	5.2	800
32	.15	10.4	150	78	.38	4.6	1,000
33	.15	8.6	200	83	.39	3.	1,200
34	.15	8.6	225	85	.49	3.	1,300
35	.15	7.4	250	88	.48	4.6	1,200
42	.17	8.8	300	93	.54	3.	1,600
45	.15	7.4	350	95	.59	3.	1,600
51	.21	10.4	375	103	.74	4.	1,800
52	.20	8.	500	105	.60	2.	1,500
55	.18	7.4	450	108	.70	2.55	1,800
57	.20	5.2	600	110	.82	2.55	2,000
62	.25	7.3	650	114	.94	3.7	2,000
66	.26	6.	700	122	1.25	2.	2,200
67	.26	5.2	700	124	1.14	3.	2,250
75	.27	4.6	750				



Plate 3511 YN

SPROCKET WHEELS, PLATE 3511 YN

Pitch Diam., Inches	No. of Teeth	Price	Pitch Diam., Inches	No. of Teeth	Price	Pitch Diam., Inches	No. of Teeth	Price	Pitch Diam., Inches	No. of Teeth	Price	Pitch Diam., Inches	No. of Teeth	Price
No. 25			7½	20	\$1.70	10½	24	\$2.40	Nos. 57, 67 and 77			6½	8	\$2.00
2	7	\$0.80	8½	19	2.00	14	32	3.20	5½	7	\$1.55	7½	9	2.20
2½	8	.85	9½	26	2.35	18	41	4.00	6	8	1.70	8¼	10	2.40
3¼	11	1.00	12	27	2.60	No. 62			7½	10	2.00	9	11	2.60
3¾	13	1.10	Nos. 35, 45 and 55			6¼	12	\$2.40	8	11	2.15	10	12	2.80
4	14	1.10	2½	5	\$0.90	8	15	2.85	9½	13	2.50	10¾	13	3.00
4¼	15	1.15	3	6	1.00	9½	18	3.20	12½	17	3.25	11½	14	3.20
5	17	1.25	3¾	7	1.10	10	19	3.35	14	19	3.65	12½	15	3.40
5½	19	1.40	4¼	8	1.25	No. 52			15½	21	4.05	14¼	17	3.90
7½	26	1.70	4¾	9	1.35	3½	7	\$1.10	18¼	25	5.00	16	19	4.40
8	28	1.80	5¾	11	1.55	5	10	1.40	19¾	27	5.50	16½	20	4.65
10	35	2.10	6	12	1.65	5½	12	1.55	20½	28	5.75	18½	22	5.15
12	42	2.40	7	13	1.75	6	13	1.65	22	30	6.25	21	25	5.90
16	56	3.10	7½	14	1.85	6½	14	1.75	24¼	33	7.00	22½	27	6.40
No. 32			8½	16	2.05	7	15	1.85	26	36	7.75	23¼	28	6.75
3	8	\$0.95	8¾	17	2.15	8	17	2.05	28	38	8.25	24	29	6.90
18	48	4.10	9½	18	2.25	9	19	2.30	30	41	9.00	28½	34	8.55
Nos. 33 and 34			10	19	2.35	9½	20	2.40	32½	44	9.75	30½	37	10.00
3	7	\$0.95	10½	20	2.45	10	21	2.50	36	49	12.00	32½	39	10.90
4	9	1.15	No. 42			12½	26	3.00	41½	56	15.50	33½	40	11.40
4½	10	1.25	3¾	9	\$1.20	14½	30	3.50	47½	64	21.00	37	44	12.80
5½	12	1.45	4½	10	1.30	16½	34	4.00	Nos. 75, 78 and 88			38	46	14.00
6½	15	1.70	4¾	11	1.35	18	38	4.50	5	6	\$1.65	42	49	16.50
7	16	1.80	5¾	13	1.45	20	42	5.00	6	7	1.80	48	58	22.50
			7	16	1.80	26½	55	7.00						



3513 N

LEATHER BELTING, PLATE 3513 N

Width, inches.....	1	1¼	1½	2	2½	3
Per foot.....	\$0.24	\$0.30	\$0.36	\$0.48	\$0.60	\$0.72
Width, inches.....	3½	4	4½	5	5½	6
Per foot.....	\$0.84	\$0.96	\$1.08	\$1.20	\$1.32	\$1.44
Width, inches.....	7	8	9	10	11	12
Per foot.....	\$1.68	\$1.92	\$2.16	\$2.40	\$2.64	\$2.88
Width, inches.....	13	14	15	16	17	18
Per foot.....	\$3.12	\$3.36	\$3.60	\$3.84	\$4.08	\$4.32
Width, inches.....	19	20	21	22	23	24
Per foot.....	\$4.56	\$4.80	\$5.04	\$5.28	\$5.52	\$5.76
Width, inches.....	25	26	27	28	30	
Per foot.....	\$6.00	\$6.24	\$6.48	\$6.72	\$7.20	



3515 N

PREPARED STITCHED CANVAS BELTING, PLATE 3515 N

Width	4-Ply	5-Ply	6-Ply	8-Ply	10-Ply
1 -inch.....	\$0.12	\$....	\$....	\$....	\$....
1½ -inch.....	.18	....	....	....	....
2 -inch.....	.24	.30	.36	....	....
2½ -inch.....	.30	.38	.45	....	....
3 -inch.....	.35	.44	.53	....	....
3½ -inch.....	.39	.49	.59	....	....
4 -inch.....	.43	.54	.65	.86	....
4½ -inch.....	.47	.59	.71	.94	....
5 -inch.....	.51	.64	.77	1.02	....
6 -inch.....	.60	.75	.90	1.20	....
7 -inch.....	.70	.88	1.05	1.40	....
8 -inch.....	.80	1.00	1.20	1.60	....
9 -inch.....	.90	1.13	1.35	1.80	....
10 -inch.....	1.00	1.25	1.50	2.00	....
11 -inch.....	1.10	1.38	1.65	2.20	....
12 -inch.....	1.20	1.50	1.80	2.40	3.00
13 -inch.....	1.43	1.79	2.15	2.86	3.58
14 -inch.....	1.54	1.93	2.31	3.08	3.85
15 -inch.....	1.65	2.06	2.48	3.30	4.13
16 -inch.....	1.76	2.20	2.64	3.52	4.40
18 -inch.....	1.98	2.48	2.97	3.96	4.95
20 -inch.....	2.20	2.75	3.30	4.40	5.50
22 -inch.....	2.42	3.03	3.63	4.84	6.05
24 -inch.....	2.64	3.30	3.96	5.28	6.60



3514 N

RUBBER BELTING, PLATE 3514 N

Width	2-Ply	3-Ply	4-Ply	5-Ply	6-Ply	7-Ply	8-Ply
1 -inch.....	\$0.09	\$0.11	\$0.13	\$....	\$....	\$....	\$....
1¼ -inch.....	.11	.13	.16	....	....	....	....
1½ -inch.....	.13	.15	.19	.23	....	....	....
1¾ -inch.....	.15	.17	.22	.27	....	....	....
2 -inch.....	.18	.20	.25	.31	.37	....	....
2½ -inch.....	.22	.25	.31	.38	.46	....	....
3 -inch.....	.26	.30	.37	.45	.55	....	....
3½ -inch.....	.30	.35	.43	.53	.65	....	....
4 -inch.....	.34	.40	.50	.61	.75	.86	....
4½ -inch.....	.38	.45	.55	.69	.84	.96	....
5 -inch.....	.42	.50	.61	.76	.91	1.06	....
6 -inch.....	.50	.60	.72	.89	1.08	1.25	1.44
7 -inch.....	.59	.70	.84	1.04	1.25	1.46	1.68
8 -inch.....	.67	.80	.96	1.19	1.44	1.68	1.92
9 -inch.....	.76	.90	1.07	1.34	1.60	1.88	2.16
10 -inch.....	.84	1.00	1.20	1.49	1.77	2.09	2.40
11 -inch.....	.92	1.10	1.32	1.63	1.96	2.29	2.62
12 -inch.....	1.00	1.20	1.43	1.78	2.15	2.50	2.85
13 -inch.....	1.10	1.30	1.56	1.95	2.34	2.73	3.12
14 -inch.....	1.19	1.40	1.69	2.11	2.54	2.96	3.39
15 -inch.....	1.28	1.52	1.83	2.28	2.74	3.19	3.65
16 -inch.....	1.37	1.65	1.96	2.44	2.94	3.42	3.92
18 -inch.....	1.55	1.87	2.22	2.77	3.33	3.88	4.44
20 -inch.....	1.74	2.09	2.49	3.10	3.73	4.35	4.97
22 -inch.....	1.94	2.33	2.77	3.47	4.16	4.85	5.54
24 -inch.....	2.16	2.60	3.08	3.85	4.62	5.39	6.16

COTTON CANVAS BELTING

Width	2-Ply	3-Ply	4-Ply	5-Ply	6-Ply
2 -inch.....	\$0.06	\$0.09½	\$0.13	\$0.21	\$0.30
2½ -inch.....	.07½	.11	.15	.23	.32
3 -inch.....	.08½	.13	.18	.26	.34
3½ -inch.....	.10	.15	.20	.29	.36
4 -inch.....	.11½	.17	.23	.31	.38
5 -inch.....	.14½	.21	.28	.36	.44
6 -inch.....	.18	.25	.33	.41	.50
7 -inch.....	.21	.29	.38	.48	.58
8 -inch.....	.23	.33	.44	.55	.65
9 -inch.....	.26	.37	.50	.61	.73
10 -inch.....	.29	.42	.56	.69	.82
12 -inch.....	.35	.50	.66	.83	1.00
14 -inch.....	.43	.62	.78	.98	1.20
16 -inch.....	.49	.72	.90	1.15	1.40

ROUND LEATHER BELTING

Size, inches.....	¼	⅜	½	⅝	¾
Solid, per foot.....	\$0.05	\$0.07	\$0.10	\$0.14	\$0.18
Twisted, per foot.....	....	....	....	....	.27
Size, inches.....	½	⅝	¾	⅞	1
Solid, per foot.....	\$....	\$....	\$....	\$....	\$....
Twisted, per foot.....	.38	.48	.60	.80	.96



3517 N

LACE LEATHER IN FULL SIDES, PLATE 3517 N
Rawhide, full sides, per square foot.....\$0 50



3519 N

LATHROP'S PATENT BELT AWL, PLATE 3519 N
Per dozen.....\$9.00



3520 N

BELT PUNCH, PLATE 3520 N
Nos. 1, 2, 3, 4, 5, best cast steel, per dozen.....\$2.00
Nos. 6, 7, 8, 9, best cast steel, per dozen..... 2.25
Nos. 10, 12, 14, best cast steel, per dozen..... 2.50



3518 N

CUT LACING, PLATE 3518 N
Width, inches..... 1/4 5/16 3/8
Price, per 100 feet.....\$2.50 \$3.00 \$3.75
Width, inches..... 1/2 5/8 3/4
Price, per 100 feet.....\$5.50 \$6.50 \$7.50

BELT DRESSING AND CEMENT
Dressing, in 2, 5, 10 and 25-pound cans, per pound.....\$0.50
Cement, per pound..... .90

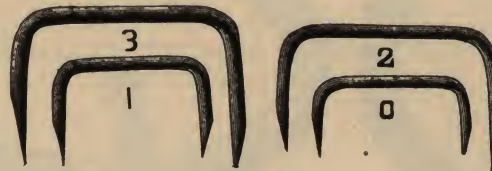


3521 N

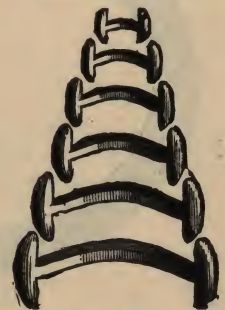
RIVET SETS, PLATE 3521 N
No. 00, per dozen.....\$9.00 No. 4, per dozen.....\$6.00
No. 0, per dozen..... 9.00 No. 5, per dozen..... 4.50
No. 1, per dozen..... 7.60 No. 6, per dozen..... 4.50
No. 2, per dozen..... 7.60 No. 7, per dozen..... 3.85
No. 3, per dozen..... 6.00 No. 8, per dozen..... 3.85



3522 N



3523 N



3524 N

OVAL POINT BELT HOOK, PLATE 3522 N

Number	1	2	3	4	5	6	7
Price, per 1,000	\$30.00	\$20.00	\$16.00	\$14.00	\$11.00	\$8.50	\$6.00
Number	8	9	10	11	12	13	14
Price, per 1,000	\$5.00	\$4.00	\$3.50	\$3.00	\$2.80	\$2.60	\$2.40

COVEL IMPROVED BELT FASTENER, PLATE 3523 N

They are made in four sizes, viz.: Nos. 0, 1, 2 and 3, the No. 0 being the smallest, and No. 3 the largest size. No. 0 for single leather and light rubber belts; No. 1 for all belts less than 4-ply; No. 2 from 4 to 6-ply; No. 3 from 6 to 10-ply.

Number	0	1	2	3
Price, per box of 200	\$0.50	\$0.50	\$0.65	\$0.75

BLAKE'S BELT STUD, PLATE 3524 N

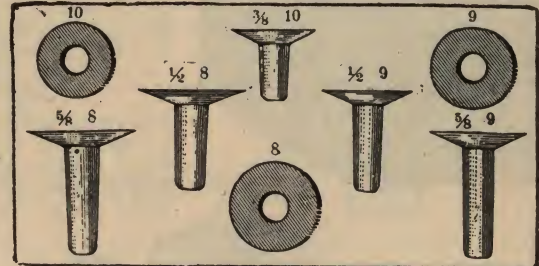
Number	6	5	4	3	2	1	0	00
Per box, 100 studs	\$0.60	\$0.70	\$0.80	\$0.90	\$1.25	\$1.65	\$2.00	\$2.50



3525 N



3526 N



3527 N

BRISTOL STEEL BELT LACING, PLATE 3525 N

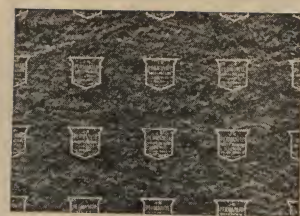
Number	111	112	113	114	115	117	119
Thickness of belt, inches	3/16 to 1/4	1/4 to 5/16	5/16 to 3/8	3/8 to 1/2	1/2 to 5/8	5/8 to 3/4	3/4 to 7/8
Per box	\$1.65	\$2.20	\$2.75	\$3.30	\$3.85	\$4.95	\$6.05

STAG STEEL BELT HOOK, PLATE 3526 N

No. 00—For light leather, rubber or cotton belts, 3/8 to 3 inches wide, per 100.....\$0.80
No. 0—For light leather, rubber or cotton belts, 1/2 to 3 inches wide, per 100..... 1.00
No. 1—For single leather, 3-ply rubber or cotton belts, 1 to 5 inches wide, per 100..... 1.20
No. 2—For heavy single or light double leather, 4-ply rubber or cotton belts, 1 to 8 inches wide, per 100...\$2.00
No. 3—For double leather, 4 to 6-ply rubber or cotton belts, 1 to 12 inches wide, per 100..... 3.40
No. 4—For heavy double leather, 6 to 8-ply rubber or cotton belts, 1 inch wide and up, per 100..... 5.00

COPPER RIVETS AND BURRS, PLATE 3527 N

Number	7	8	9	10	12	7	8	9
Per pound	\$0.49	\$0.50	\$0.52	\$0.54	\$0.58	\$0.52	\$0.53	\$0.55



3529 N

3530 N

3531 N

3528 N

PACKINGS, PLATE 3528 N TO PLATE 3531 N

Plate 3528 N—Kearsarge sheet packing, per pound.....	\$1.00
Plate 3529 N—Permanite sheet packing, per pound.....	2.00
Plate 3530 N—Mobilene sheet packing, per pound.....	1.50
Plate 3530 N—Red and black gas engine sheet packing, 1/16-inch thick, per pound.....	.75
Plate 3530 N—Red and black gas engine sheet packing, 1/32-inch thick, per pound.....	1.00
Plate 3531 N—Kearsarge spiral rod packing, for steam, per pound.....	2.00



3532 N



3533 N



3534 N

GASKETS, PLATE 3532 N AND PLATE 3533 N

Plate 3532 N—Kearsarge standard manhole gaskets, per pound.....	\$1.50
Kearsarge standard handhole gaskets, per pound.....	2.00
Plate 3533 N—Kearsarge tubular gasketing, per pound.....	1.50

DIAGONAL ROD PACKING, PLATE 3534 N

High-pressure coil, per pound.....	\$1.70
Low-pressure coil, per pound.....	1.40

COTTON WASTE, PLATE 3535 N

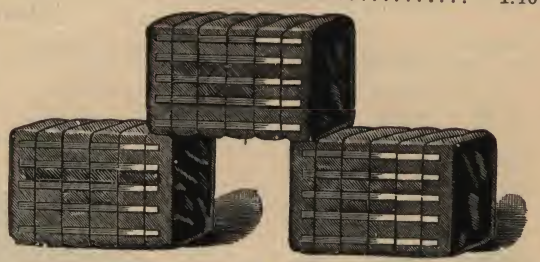
No. 1, white, per pound.....	\$0.19
No. 2, white, per pound.....	.17
No. 1, colored, per pound.....	.14
No. 2, colored, per pound.....	.12

OAKUM, PLATE 3536 N

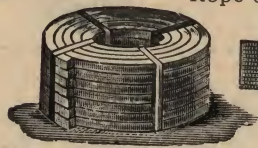
Plumbers' oakum, in bales of 50 pounds, per bale.....	\$4.50
Navy oakum, per bale.....	5.50
Rope oakum, 50-lb. bales, per pound....	.09 1/2
Rope oakum, in 5-lb. balls, per pound....	.10



3535 N



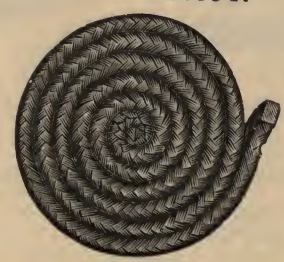
3536 N



3537 N

SQUARE PISTON PACKING, PLATE 3537 N

Square, 1 1/4 to 1 1/2-inch, 12-foot lengths, per pound.....	\$0.85
Rubber back, 1/4 to 1 1/2-inch square, 20-foot lengths, per pound.....	1.00
Pure gum, 1/4 to 1 1/2-inch square, 12-foot lengths, per pound.....	1.40
Hydraulic coil, 1/4 to 1-inch, 12-foot lengths, per pound..	2.00
Hydro coil packing, for cold water, 1/4 to 1-inch, per pound.....	1.40



3538 N

SQUARE FLAX PACKING, PLATE 3538 N

Square flax, 1/4-inch, per yard.....	\$0.25
3/8-inch and larger, per pound.....	.85
Hydraulic flax coil, per pound.....	.80



Sectional ring packing



3542 N

Elastic ring packing



3543 N

Spiral packing



3544 N



3545 N

GARLOCK PACKING, PLATE 3542 N TO PLATE 3544 N

Per pound, all varieties..... \$1.20

SMOKY CITY PACKING, PLATE 3545 N

Per pound..... \$0.75



3546 N



3547 N



3548 N

HEMP PACKING, PLATE 3546 N

Italian A hemp packing, per pound..... \$0.22
 Italian B hemp packing, per pound..... .25
 Gasket hemp packing in 50-pound coils, per pound..... .09

COTTON PACKING

Cotton candle wick, per pound..... \$0.50
 Cotton rope packing, per pound..... .40

CLOTH INSERTION OR CLOTH OUTSIDE PACKING, PLATE 3547 N

Made with cloth inside, or with cloth on one or both sides.

Thickness	$\frac{1}{32}$	$\frac{1}{16}$	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$
Per pound.....	\$0.65	\$0.66	\$0.61	\$0.61	\$0.58	\$0.55

One ply of cloth for every $\frac{1}{16}$ -inch thickness. Three cents per pound additional will be charged for each extra ply of cloth.
 Each cloth, whether insertion or on outside, to count as one ply.

PURE SHEET RUBBER OR VALVE PACKING

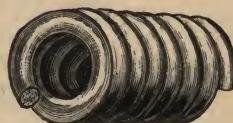
Per pound..... \$1.40

RAINBOW SHEET RUBBER PACKING, PLATE 3548 N

All sizes, $\frac{1}{32}$ to $\frac{1}{2}$ -inch, per pound..... \$0.80



3549 N



3550 N



3551 N

ROUND RED PACKING FOR MANHOLE GASKETS, PLATE 3549 N

Sizes, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch.

Per pound..... \$1.50

Packed 12 feet in box.

ECLIPSE GASKET PACKING

Per pound..... \$1.50

PEERLESS PISTON PACKING

Per pound..... \$1.50

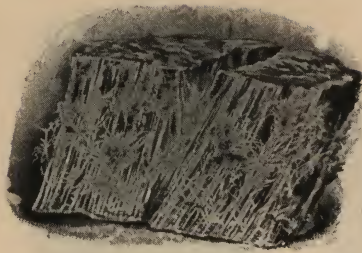
SELDEN'S PATENT PACKING, PLATE 3550 N

This is a fine grade of hydraulic and steam packing for piston rods or plungers.

Price, plain, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ -inch, per pound..... \$0.60
 With rubber core, per pound..... .80

JENKINS GENUINE SHEET PACKING, PLATE 3551 N

$\frac{1}{32}$ to $\frac{1}{2}$ inch thick, per pound..... \$0.80



ASBESTOS PACKING, SHEATHING, FIBER, ETC.

This wonderful mineral possesses fine silk-like fibers, which are indestructible by fire or acids, and can be spun, woven, felted and pulped.

Wick Packing



Piston Rod Packing

Per pound\$0.50

Wick Packing

Per pound\$0.50

Mill Board or Sheet Packing

This article forms an economical and durable flat packing for flange joints, cylinder heads, manhole plates, etc., and can be removed and replaced without injury.

In sheets 40x40 inches, from 1/32 to 1/2 inch thick, weighing from 1 1/2 to 28 pounds.

Per pound \$0.15

Asbestos Gaskets and Washers

We furnish to order all shapes and sizes asbestos gaskets not exceeding 48 inches in diameter and from 1/32 to 1/2 inch thick.

Round, square or oval, over 6 inches, per pound..... \$0.70

3 1/2 to 6 inches, inclusive, per pound..... 1.15

Under 3 inches, inside diameter, per pound..... 1.25

Asbestos Fiber

For natural gas fireplaces, packing journal boxes, filtering chemicals, etc.

No. 1—Extra, per pound.....\$0.50 No. 2—Per pound\$0.20

No. 1—Per pound40 No. 3—Per pound12

Asbestos Building Felt

Made of the best quality of asbestos fiber. Possesses the highest fire-proof and nonconducting qualities; odorless, acid and vermin proof and invaluable as a protection from fire.

Per pound \$0.12

Sheathing

This is a strong, white sheathing, strictly fire-proof. It is used for lining wood partitions and other surfaces in danger of ignition by fire. Rolls of from 60 to 100 pounds, 42 inches wide, weigh about 6 pounds to 100 square feet. Double thick asbestos sheathing weighs about 10 pounds to 100 square feet.

Per pound \$0.15

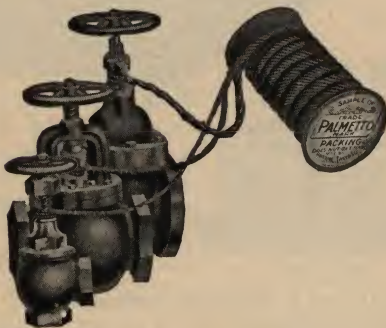
Cement Felting

For covering steam pipes, boilers, etc. This material is composed of asbestos fiber and a cementing substance which forms a light, porous covering, partaking of the nature of felt and cement. It is put up dry in sacks to be mixed with water to the consistency of mortar and is applied with a trowel. It forms the most economical and effective nonconductor in use. One sack will cover a surface of about 50 square feet 1 inch thick. It weighs dry about 100 pounds to the sack.

Per sack \$2.50

Hair Felt

Thickness, inches	1/2	3/4	1
Ordinary, per square foot.....	\$0.06 1/2	\$0.08	\$0.08 1/2
Extra, per square foot.....	.10	.13	.15



3552 N PALMETTO TWIST PACKING, PLATE 3552 N
Per pound\$1.00



3553 N DANIELS PPP PACKING, PLATE 3553 N
Per pound\$1.50



3554 N RUBBER VALVES, PLATE 3554 N

	Soft	Medium	Hard
Special grade, per pound..	\$1.30	\$1.30	\$1.50
Stock grade, per pound..	.75	.75	1.00



3556 N



3557 N



3558 N

RUBBER HOSE, PLATE 3556 N TO PLATE 3558 N

Whipcord braided hose, on reels, specially recommended for spraying.

Diamond "N" hose is recommended for a pressure of 40 to 50 pounds. In 4-ply it is recommended for a pressure of 50 to 60 pounds.

KONGCO extra hose is recommended where the pressure is from 60 to 80 pounds. In 4-ply it is recommended for a pressure from 80 to 100 pounds.

High-pressure hose is a thoroughly reliable hose, recommended for any severe or unusual pressure. In 4-ply it is recommended for 150 pounds.

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/4	2 1/2	3	4
2-Ply, per foot	\$0.20	\$0.25	\$0.33	\$0.42	\$0.50	\$0.66	\$0.75	\$0.83	\$0.99	\$1.32
3-Ply, per foot	.25	.30	.40	.50	.60	.80	.90	1.00	1.20	1.60
4-Ply, per foot	.30	.37	.50	.62	.75	1.00	1.12	1.25	1.50	2.00

STEAM, BREWERS', OIL AND AIR BRAKE HOSE

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
3-Ply, per foot	\$0.47	\$0.57	\$0.70	\$0.85	\$1.02	\$1.34	\$1.66	\$2.00
4-Ply, per foot	.56	.71	.87	1.04	1.25	1.66	2.08	2.80
5-Ply, per foot	.70	.87	1.07	1.30	1.56	2.07	2.60	3.50
6-Ply, per foot	.84	1.05	1.28	1.56	1.87	2.49	3.12	4.20

Marlin wrapped steam hose, 10 per cent advance on list, net.

COTTON GARDEN HOSE—RUBBER LINED

Size, inches	1/2—Coupled	3/4—Coupled	1—Uncoupled
Per foot	\$0.25	\$0.30	\$0.45



3559 N



3560 N



3561 N

EXTRA FOR WINDING WATER HOSE WITH GALVANIZED STEEL WIRE, PLATE 3559 N

Internal diameter, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
3-Ply, per foot	\$0.08	\$0.08	\$0.10	\$0.12	\$0.14	\$0.16	\$0.18
4-Ply, per foot	.09	.09	.11	.13	.15	.17	.19

For winding steam hose, 10 per cent net advance on above prices.

SUCTION HOSE, PLATE 3560 N

Wire-Lined Rubber Suction Hose

Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Per foot	\$0.77	\$1.00	\$1.25	\$1.65	\$2.50	\$3.10	\$4.00	\$4.90	\$5.80
Patent smooth bore					2.60	3.50	4.50	5.50	6.50

Agricultural Wire-Lined Suction Hose

Size, inches	1 1/2	2
Per foot	\$1.50	\$2.30

Hard Rubber Suction Hose

Internal diameter, inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Per foot	\$0.55	\$0.65	\$0.75	\$0.93	\$1.13	\$1.50	\$1.88

COTTON AND LINEN HOSE, PLATE 3561 N

Cotton Mill Hose—Rubber Lined

Size, inches	1	1 1/4	1 1/2	2	2 1/2
Without couplings, per foot	\$0.40	\$0.45	\$0.50	\$0.65	\$0.80

Cotton Fire Hose—Rubber Lined

Size, inches	2	2 1/2
Single jacket Streamline fire hose, with automatic couplings, per foot	\$0.70	\$0.75
Single jacket Waterline fire hose, with automatic couplings, per foot	.80	.85
Double jacket Waterline fire hose, with automatic couplings, per foot	.90	1.10
Double jacket Yachtline fire hose, with automatic couplings, per foot	1.00	1.25

Unlined Linen

Size, inches	1	1 1/4	1 1/2	2	2 1/2
Standard, for light pressure, not guaranteed, per foot	\$0.24	\$0.27	\$0.30	\$0.34	\$0.40
Extra, for heavy pressure, per foot	.24	.27	.30	.34	.40

We do not guarantee any unlined linen hose to be absolutely water-tight.

Rubber Lined Linen

Size, inches	1	1 1/4	1 1/2	2	2 1/2
Standard, for light pressure, per foot	\$0.36	\$0.40	\$0.44	\$0.54	\$0.65

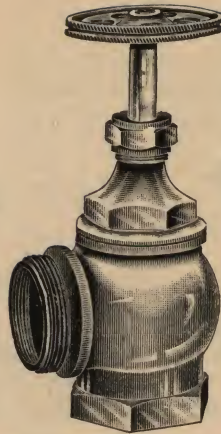
RUBBER FIRE HOSE

2 1/2-inch, 4-ply, coupled, per foot	\$1.25
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We handle several grades of fire hose, and can suit the needs of any fire department. Samples will be sent on application.



3562 N



3563 N



3564 N



3565 N

FIRE HOSE VALVE, PLATE 3562 N

Size, inches	1	1 1/4	1 1/2	2	2 1/2
Each	\$3.15	\$3.70	\$4.75	\$7.00	\$8.50

NEW YORK PATTERN HOSE VALVE, PLATE 3563 N

Size, inches	1 1/4	1 1/2	2	2 1/2
Rough body, finished trimmings, iron wheel handle, each	\$4.00	\$5.00	\$7.00	\$9.00
Rough body, finished trimmings, iron wheel handle, nickel plated, each	4.50	5.50	7.50	9.50
Finished brass, finished brass wheel handle, each	5.50	6.50	8.50	10.50
Finished brass, finished brass wheel handle, nickel plated, each	6.00	7.00	9.00	11.00

FIRE HOSE GATE VALVE, PLATE 3564 N

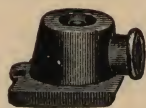
Size, inches	3/4	1	1 1/4	1 1/2	2	2 1/2
With cap and chain, each	\$3.00	\$3.75	\$4.85	\$6.50	\$9.25	\$16.50
Without cap and chain, each	1.75	2.50	3.50	5.00	7.50	14.00

GARDEN HOSE VALVE, PLATE 3565 N

Size, inches	3/4	1	1 1/4	1 1/2	2
Each	\$1.65	\$2.20	\$3.40	\$4.75	\$7.00



3566 N



3567 N



3568 N



3569 N

LAWN SPRINKLERS, PLATE 3566 N TO PLATE 3569 N

Plate 3566 N—"Cactus" lawn sprinkler, each	\$2.00
Plate 3567 N—"Sensible" lawn sprinkler, each	1.00
Plate 3568 N—"Little Wonder" lawn sprinkler, each	.20
Plate 3569 N—"Fountain" lawn sprinkler, each	.60

No. 1

No. 2



3570 N



No. 1

No. 2



3571 N

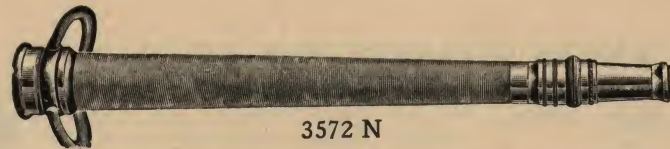


PACIFIC LAWN SPRINKLER, PLATE 3570 N

No. 1—On runners, each	\$2.50
No. 2—On tripod, each	2.50

UNIQUE LAWN SPRINKLER, PLATE 3571 N

No. 1—On runners, each	\$2.50
No. 2—On tripod, each	2.50



3572 N

IMPROVED SWIVEL HANDLE PLAY PIPE, PLATE 3572 N

Size of hose, inches.....	2	2½	2½	2½
Length of play pipe, inches.....	20	24	30	36
Wound and painted, each.....	\$9.00	\$11.00	\$12.00	\$15.00
Plain brass, each.....	7.50	9.50	11.00	13.50
Rubber tube, swivel handles, each.....	.....	.....	15.00	18.00
Leather tube, swivel handles, each.....	.....	.....	.....	18.00



3573 N



3574 N

HOSE NOZZLES, PLATE 3573 N AND PLATE 3574 N

Size, inches	¾	¾	1	1	1¼	1¼	1½	1½	2	2	2½
Length, inches	8	12	8	12½	12	15	12	15	12	20	24
Plain, with screw tip, per dozen.....	\$ 8.00	\$10.00	\$11.20	\$13.20	\$21.20	\$25.00	\$25.00	\$32.50	\$41.00	\$ 53.00	\$103.50
With cock on large end, per dozen.....	13.00	18.00	18.00	23.00	43.00	59.00	60.00	74.00	83.00	113.00	185.00

¾-inch hose pipe have hose thread. Larger sizes have iron pipe threads, unless otherwise ordered.



3575 N



3576 N

PLAIN HOSE NOZZLE, PLATE 3575 N

Size, inches	¾	¾	1	1	1¼	1¼	1½	1½	2	2	2½
Length, to screw, inches	3	8	4	..	4¾	12	5¾	..	..	..	..
Length, to wind, inches	5½	..	6	8	..	..	..	..	..	..	..
Hose pipe thread, per dozen.....	\$4.00	\$7.00	\$5.00	\$9.50	\$12.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00
Iron pipe thread, per dozen.....	5.00	8.00	6.25	9.50	13.75	19.75	19.75	19.75	19.75	19.75	19.75
To wind, per dozen.....	4.00	..	5.00	..	..	..	..	..	..	..	..

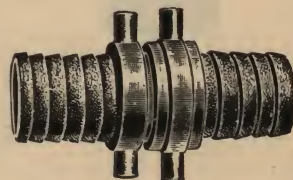
Size, inches	1½	2	2	2½	2½	2½	2½
Length, to screw, inches	12	6¾	12	7½	12	15	22
Hose pipe thread, per dozen.....	\$22.00	\$26.00	\$34.00	\$37.40	\$55.00	\$65.00	\$120.00
Iron pipe thread, per dozen.....	24.00	29.00	39.00	39.50	60.00	68.00	92.00

GEM HOSE NOZZLE, PLATE 3576 N

Size, inches	¾	1
Per dozen	\$10.00	\$12.00



3577 N



3578 N



3579 N

STANDARD HOSE COUPLING, PLATE 3577 N

Size, inches	½	¾	1
Per dozen	\$2.40	\$2.40	\$4.65

½ and ¾-inch have hose thread; 1-inch has iron pipe thread.

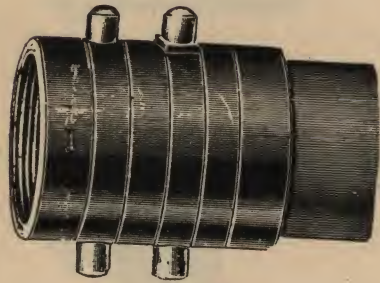
HOSE COUPLING, WITH LUG, PLATE 3578 N

Size, inches	1¼	1½	2	2½	3	3½	4	5	6
Per dozen	\$10.50	\$15.00	\$26.00	\$50.00	\$76.00	\$120.00	\$150.00	\$250.00	\$500.00

All iron pipe thread size.

STEAM HOSE COUPLING, PLATE 3579 N

Size, inches	½	¾	1	1¼	1½	2	2½
Each	\$1.25	\$1.25	\$1.50	\$2.00	\$2.50	\$3.50	\$6.00



3580 N

MARINE EXPANSION RING COUPLINGS, PLATE 3580 N

Size, inches....	1	1 1/4	1 1/2	2	2 1/2
Each	\$1.40	\$1.70	\$2.00	\$2.50	\$3.00

SIAMESE HOSE COUPLINGS, PLATE 3581 N

Size, inches	2 1/2 x 2 1/2 x 3	2 1/2 x 2 1/2 x 4
Each	\$10.00	\$18.00

In ordering, send sample of thread desired for hose inlets, and give size of stand pipe.



3581 N



3582 N



3583 N



3584 N



3585 N



3586 N

SURE GRIP HOSE CLAMPS, PLATE 3582 N

Size hose, inches....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Per dozen	\$1.00	\$1.00	\$1.50	\$2.50	\$3.00	\$4.00	\$7.00

SHERMAN HOSE CLAMPS, PLATE 3583 N

Size hose, inches.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Per dozen	\$0.60	\$0.60	\$2.00	\$2.50	\$3.00	\$4.00	\$7.00

IRON HOSE MENDERS, PLATE 3584 N

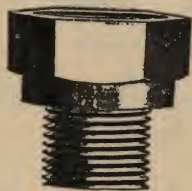
Size, inches	1/2	3/4	1
Plain, per dozen.....	\$0.24	\$0.30	\$0.42
Galvanized, per dozen.....	.30	.36	.60

WIZARD BRASS HOSE MENDERS, PLATE 3585 N

1/2 and 3/4-inch, per dozen.....	\$0.34
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WOODEN HOSE MENDERS, PLATE 3586 N

1/2-inch per 100.....	\$0.40
3/4-inch, per 100.....	.50



3587 N



3588 N



3589 N



3590 N



3591 N

HOSE REDUCER, PLATE 3587 N

Size, inches	1 x 3/4	1 1/4 x 1
Per dozen	\$6.50	\$10.00

HOSE BIBB END, PLATE 3588 N

Size, inches	1/2	5/8	3/4	1	1 1/4
Per dozen	\$2.50	\$2.50	\$2.50	\$3.50	\$6.00

HOSE NIPPLES, PLATE 3589 N AND PLATE 3590 N

Size, inches	3/4	1	1 1/4	1 1/2	2
Per dozen	\$3.50	\$5.00	\$9.00	\$10.00	\$14.00

3/4-inch has iron pipe thread and hose thread. Larger sizes have iron pipe threads on both ends.

HOSE BUSHING, PLATE 3591 N

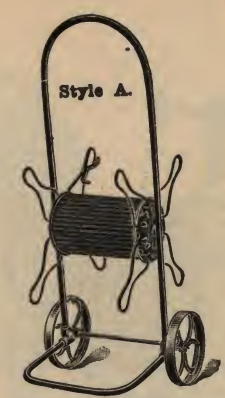
Size, inches	1 x 3/4
Per dozen	\$6.50



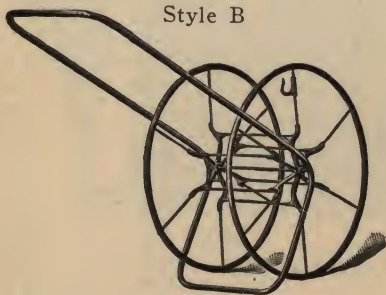
3592 N

BOW TOP, WOOD REEL, PLATE 3592 N
Per dozen \$10.00

STYLE A HOSE REEL, PLATE 3593 N
Each \$2.00

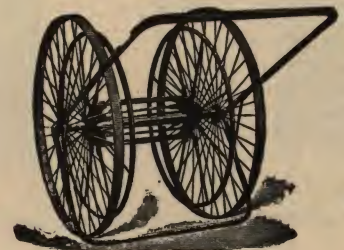


3593 N

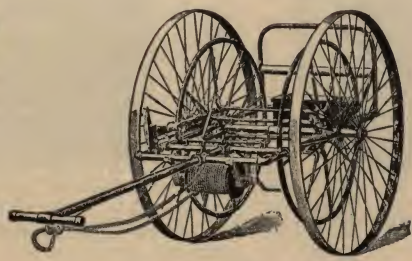


Style B

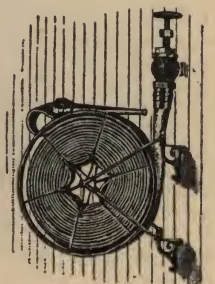
3594 N



3595 N



3596 N



3597 N

STYLE B HOSE REEL, PLATE 3594 N

Number	10	20	30	40
Height of wheel, inches.....	21	24	29	34
Weight, pounds	18	20	30	75
Capacity, 3/4-inch hose, feet.....	100	150	400	800
Capacity, 2-inch cotton R. L. fire hose, feet.....			100	300
Each	\$3.50	\$4.00	\$6.50	\$25.00

PARK AND WAREHOUSE REEL, PLATE 3595 N

Suitable for parks, warehouses and village fire departments.

Number	21	31	41	51	61
Height wheel, inches.....	28	34	42	48	52
Weight, pounds	40	50	145	200	240
Capacity, 3/4-inch hose, feet.....	200	500	...	...	...
Capacity, 2 1/2-inch cotton R. L. hose, feet.....	50	100	250	400	500
Each	\$7.50	\$10.50	\$35.00	\$45.00	\$55.00

FIRE JUMPER, PLATE 3596 N

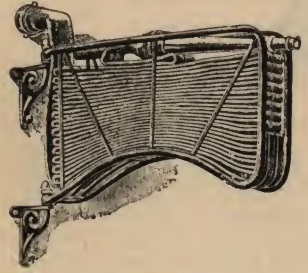
Steel wheels, tubular steel frame and reel, light weight, easy running and very strong. Has nozzle holder, friction roller, axle rack, tool box and rope reel. Height of wheels, 52 inches; tires, 2 1/2 inches. Capacity, 400 feet of 2 1/2-inch double jacket hose; 700 feet of 2 1/2-inch cotton rubber fire hose. Handsomely finished in vermilion and green.
Each \$110.00

WIRT'S WALL HOSE REEL, PLATE 3597 N

Number	2	3	4	5 1/2	6 1/2	7 1/2
Size of hose, inches.....	1 1/4 or 1 1/2	2	2 1/2	1 1/4 or 1 1/2	2	2 1/2
Capacity linen hose, feet.....	150	150	150	200	200	200
Capacity mill hose, feet.....	50	50	50	100	100	100
Each	\$6.00	\$6.00	\$6.50	\$7.00	\$7.50	\$8.00

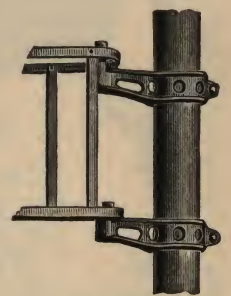
Furnished with pipe clamp for 4-inch pipe and smaller at same price. Special sizes made to order.
Any of the above can be supplied in gold or copper bronze at same price, or plated in nickel, brass or copper, finished to order at an additional cost of \$2.00 each, net.

HUMP SWINGING HOSE RACK, PLATE 3598 N



3598 N

Unlined Linen						
Number	A0	A0X	A00	A1	A1X	A2
Capacity, feet.....	50	50	50	100	100	100
Size hose, inches.....	1 1/4 or 1 1/2	2	2 1/2	1 1/4 or 1 1/2	2	2 1/2
Height, inches.....	11	11	11	16	16	16
Length, inches.....	22	22	22	24	24	24
Each.....	\$5.00	\$5.00	\$5.00	\$6.00	\$6.00	\$6.00
Cotton Rubber-Lined Mill						
Number	A3	A3X	A4	A5	A5X	A6
Capacity, feet.....	150	150	150	200	200	200
Size hose, inches.....	1 1/4 or 1 1/2	2	2 1/2	1 1/4 or 1 1/2	2	2 1/2
Height, inches.....	23	23	23	34	34	34
Length, inches.....	26	26	26	32	32	32
Each.....	\$7.00	\$7.00	\$7.00	\$7.50	\$7.50	\$8.00



3599 N

Number	A3	A3X	A4	A5	A5X	A6
Capacity, feet.....	50	50	50	100	100	100
Size hose, inches.....	1 1/4 or 1 1/2	2	2 1/2	1 1/4 or 1 1/2	2	2 1/2
Height, inches.....	23	23	23	34	34	34
Length, inches.....	26	26	26	32	32	32
Each	\$7.00	\$7.00	\$7.00	\$7.50	\$7.50	\$8.00

Furnished with pipe clamps (Plate 3599 N), for 4-inch pipe and smaller, at same price.



3600 N



3601 N



3602 N

BOWES' HOSE RACKS, PLATE 3600 N TO PLATE 3602 N
Iron.

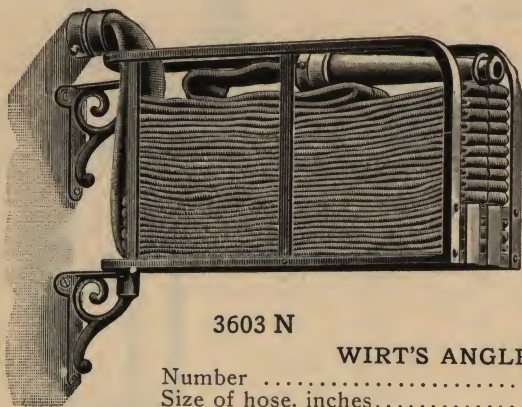
Style E	Style F	Style G		Regular Finish	Nickel Plated
No. 31	41	51	50 feet 1½-inch unlined linen hose	\$5.00	\$7.00
No. 32	42	52	50 feet 2 -inch unlined linen hose	5.00	7.00
No. 33	43	53	50 feet 2½-inch unlined linen hose	5.00	7.00
No. 31-A	41-A	51-A	75 feet 1½-inch unlined linen hose	5.00	7.00
No. 32-A	42-A	52-A	75 feet 2 -inch unlined linen hose	5.00	7.00
No. 33-A	43-A	53-A	75 feet 2½-inch unlined linen hose	5.00	7.00
No. 34	44	54	100 feet 1½-inch unlined linen hose	6.00	8.00
No. 35	45	55	100 feet 2 -inch unlined linen hose	6.00	8.00
No. 36	46	56	100 feet 2½-inch unlined linen hose	6.00	8.00
No. 34-A	44-A	54-A	150 feet 1½-inch unlined linen hose	6.00	8.00
No. 35-A	45-A	55-A	150 feet 2 -inch unlined linen hose	6.00	8.00
No. 36-A	46-A	56-A	150 feet 2½-inch unlined linen hose	6.00	8.00
Solid Brass.					
No. 131	141	151	50 feet 1½-inch unlined linen hose	Lacquered Finish \$10.00	Nickel Plated \$11.00
No. 132	142	152	50 feet 2 -inch unlined linen hose	10.00	11.00
No. 133	143	153	50 feet 2½-inch unlined linen hose	10.00	11.00
No. 131-A	141-A	151-A	75 feet 1½-inch unlined linen hose	10.00	11.00
No. 132-A	142-A	152-A	75 feet 2 -inch unlined linen hose	10.00	11.00
No. 133-A	143-A	153-A	75 feet 2½-inch unlined linen hose	10.00	11.00
No. 134	144	154	100 feet 1½-inch unlined linen hose	12.00	13.00
No. 135	145	155	100 feet 2 -inch unlined linen hose	12.00	13.00
No. 136	146	156	100 feet 2½-inch unlined linen hose	12.00	13.00
No. 134-A	144-A	154-A	150 feet 1½-inch unlined linen hose	12.00	13.00
No. 135-A	145-A	155-A	150 feet 2 -inch unlined linen hose	12.00	13.00
No. 136-A	146-A	156-A	150 feet 2½-inch unlined linen hose	12.00	13.00

In ordering Style F racks, specify size of the pipe clamp.

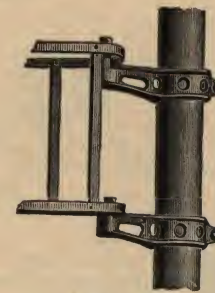
It will be seen from the cut that Style "G" rack is attached by a pipe clamp to a nipple screwed into the valve. When the thread on the hose is iron pipe thread, enabling us to use a common iron pipe nipple, there is no charge for a nipple when sold in connection with the rack, but if the hose is other than iron pipe thread we furnish a nipple having on the lower end thereof the same thread as on the couplings, and for this special nipple we make an extra charge.

List prices include pipe clamps up to and including 4 inches. For larger size pipe clamps there is a net extra charge per rack as follows:

	Iron	Brass
5-inch	\$0.30	\$0.60
6-inch	.35	.75



3603 N



3603½ N

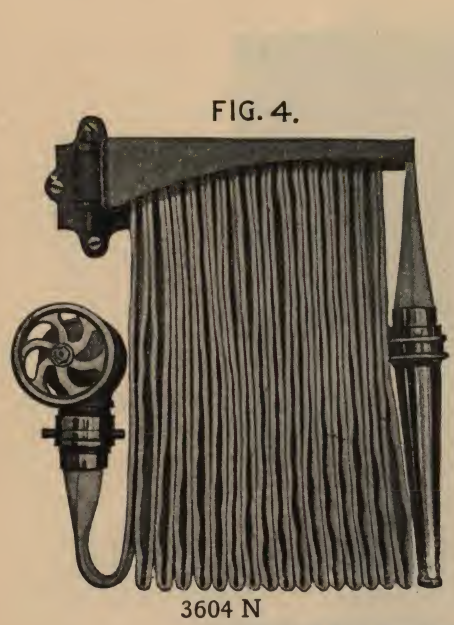
WIRT'S ANGLE-IRON HOSE RACK, STYLE U, PLATE 3603 N

Number	70	71	72	73	74	75
Size of hose, inches	1¼ or 1½	2	2½	1¼ or 1½	2	2½
Capacity linen hose, feet	50	50	50	100	100	100
Each	\$5.00	\$5.00	\$5.00	\$6.00	\$6.00	\$6.00
Number	76	77	78	79	80	81
Size of hose, inches	1¼ or 1½	2	2½	1¼ or 1½	2	2½
Capacity linen hose, feet	150	150	150	200	200	200
Capacity cotton rubber-lined mill hose, feet	50	50	50	100	100	100
Each	\$7.00	\$7.00	\$7.00	\$7.50	\$7.50	\$8.00

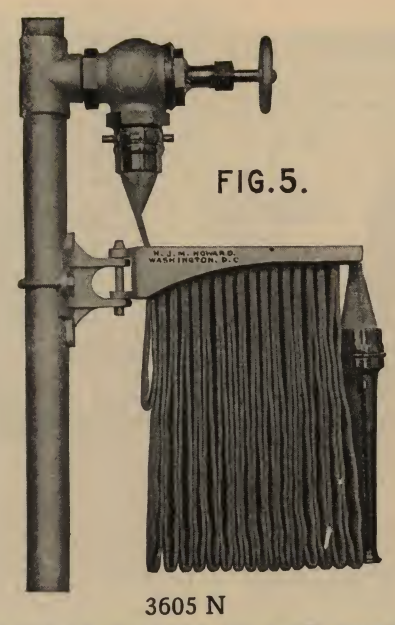
We can supply any of the above sizes in gold or aluminum bronze at the same figures; finished in nickel or copper plate at an additional cost of \$2.00 each, net.

Nos. 70, 71 and 72 can be furnished to hold 75 feet of hose. Price, \$5.50.

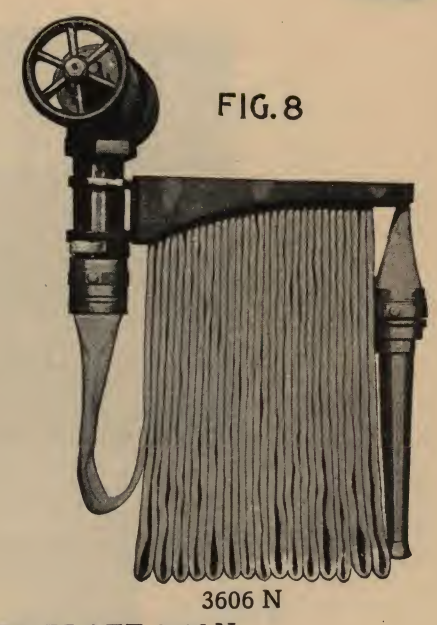
When you order racks with pipe clamps, be sure to give size of pipe they are to fit. If not standard size pipe, you must give the outside diameter. Furnished with pipe clamps (Plate 3603½ N), for 4-inch pipe and smaller, at same price.



3604 N



3605 N



3606 N

HOWARD SWINGING HOSE RACKS, PLATE 3604 N TO PLATE 3606 N

Number	1	2	3
Unlined linen hose, feet.....	50	100	150
Cotton rubber-lined hose, feet.....	..	50	100
Japanned red	\$ 5.00	\$ 6.00	\$ 7.00
Bronzed in aluminum	5.00	6.00	7.00
Bronzed in gold	5.00	6.00	7.00
Enameled white	6.00	7.00	8.00
Nickel plated on iron	7.00	8.00	9.00
Nickel plated on brass	11.00	13.00	15.00
Solid brass, polished	11.00	13.00	15.00
Solid aluminum, polished	10.00	12.00	14.00
Oxidized on iron	7.00	8.00	9.00
Oxidized on brass	11.00	13.00	15.00

Other styles of finish to order.

These racks are made in widths to conform to the widths of the different sizes of hose, therefore in ordering be sure to state the kind, size, and length of hose which will be placed on each rack.

Numbers indicate size. Figures indicate style of rack.



3607 N

RYERSON SWINGING HOSE REEL (STYLE A), PLATE 3607 N

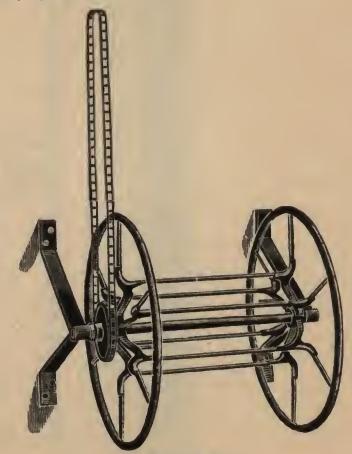
Number of reel.....	1	2	3	4	5	6
Size of hose, inches.....	1¼, 1½	2	2½	1¼, 1½	2	2½
Unlined linen, feet.....	175	150	150	250	250	275
Rubber-lined cotton, feet.....	50	50	50	100	100	100
Each	\$6.00	\$6.00	\$6.50	\$8.50	\$8.50	\$8.50

List prices for Plate 3607 N include pipe clamps up to and including 4 inches. For larger size pipe clamps there is a net extra charge per rack as follows: 5-inch, \$0.35; 6-inch, \$0.50; 7-inch, \$0.65; 8-inch, \$0.75.

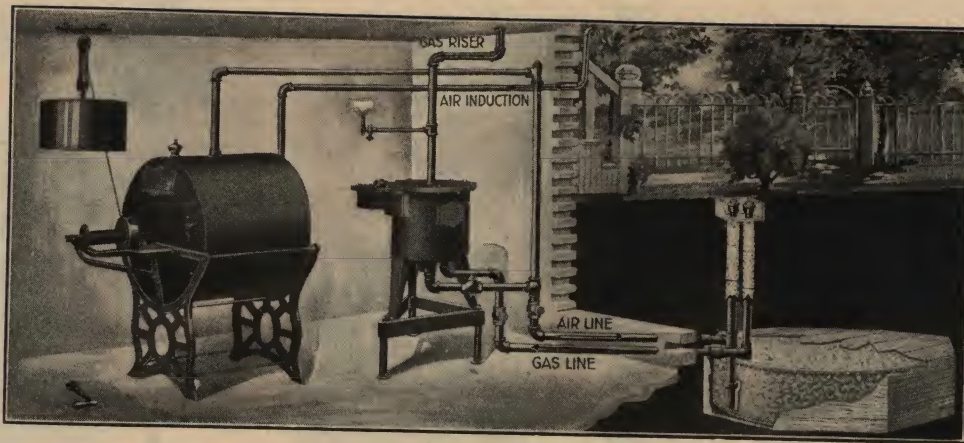
WIRT'S BRACKET REEL (STYLE W), PLATE 3608 N

Number of reel.....	200	201	202
Diameter of reel, inches.....	30	30	30
Outside length of reel, inches.....	26	30	34
Capacity of 1¼-inch double jacket fire hose, feet.....	250	300	350
Capacity of 1½-inch double jacket fire hose, feet.....	200	250	300
Capacity of 2 -inch double jacket fire hose, feet.....	150	200	250
Capacity of 2½-inch double jacket fire hose, feet.....	100	150	200
Capacity of 1½-inch cotton rubber-lined hose, feet.....	300	400	500
Capacity of 2 -inch cotton rubber-lined hose, feet.....	200	300	400
Capacity of 2½-inch cotton rubber-lined hose, feet.....	150	250	350
Each	\$18.00	\$20.00	\$22.00

If without sprocket chain, deduct \$2.00. Unlined linen hose requires about one-half the space of cotton rubber-lined hose.



3608 N



2695 N

DETROIT COMBINATION GAS MACHINE, COMPLETE WITH COMBINATION AUTOMATIC MIXING REGULATOR, PLATE 2695 N

Weight-Driven Machines.

Capacity	Price	Shipping Weight
15-light	\$ 180.00	1,200
20-light	200.00	1,225
30-light	235.00	1,325
40-light	280.00	1,675
50-light	315.00	1,875
60-light	335.00	1,975
75-light	360.00	2,240
100-light	440.00	2,850
150-light	535.00	3,250
200-light	630.00	3,525
250-light	750.00	3,950
300-light	815.00	4,690
400-light	970.00	4,990
500-light	1,070.00	5,250

Water-Driven Machines.

Capacity	Price	Shipping Weight
15-light	\$ 265.00	1,200
20-light	280.00	1,225
30-light	310.00	1,325
40-light	350.00	1,675
50-light	400.00	1,875
60-light	420.00	1,975
75-light	440.00	2,240
100-light	495.00	2,850
150-light	640.00	3,250
200-light	745.00	3,525
250-light	875.00	3,950
300-light	1,015.00	4,690
400-light	1,150.00	4,990
500-light	1,290.00	5,250

The above prices include the following: Air pump or blower, carburetter, automatic mixer, one set anti-friction pulleys, one intermediate pulley, wire rope, weight shell, crank, gasoline pump, filler cock and hose, one iron carburetter key, filler caps, filler pipe casing, two service cocks, tees for filler pipes, two street elbows for filler pipes, five right and left couplings, one test burner, pipe cap with draw-off cock for overflow chamber.

Water-Driven Machines. The same fittings and other accessories specified above for weight-driven machines are also furnished with water-driven machines, except such material that is not used on water-driven air blowers, viz., pulleys, wire rope, weight shell and crank.



2696 N

Plate 2696 N shows water wheel air pump used with water-driven machines.



2697 N

ORIGINAL WALTHER GASOLINE GAS MACHINE, PLATE 2697 N

The operation of this machine is very simple. Anyone can operate it without danger. Gas can be piped any distance from one building to another. There is no danger, no odor, no smoke, and it is always ready to use.

Includes one air blower, one cold process carburettor, one gasoline pump, one air cock, one gas cock, brass filler caps, two elbows and upright pipes on carburettor.

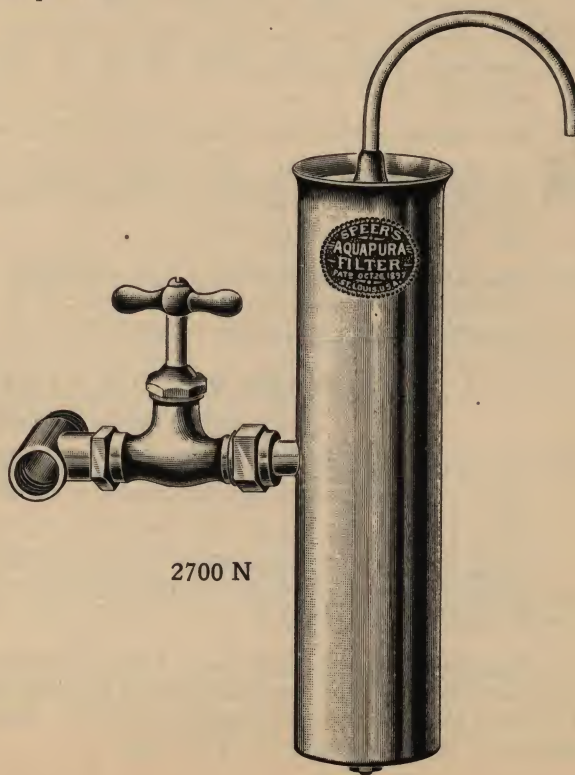
Capacity, number lights.....	20	25	30	40	50	75	100	150	200
Complete as described.....	\$160.00	\$180.00	\$200.00	\$230.00	\$260.00	\$320.00	\$380.00	\$475.00	\$550.00
Capacity storage tank, barrels.	1	1	2	2	3	4	5	6	7
Shipping weight, pounds.....	970	995	1,070	1,150	1,220	1,400	1,500	1,620	1,780

Add four lights to capacity of gas machine for each stove burner required.

AQUA PURA FILTER, PLATE 2700 N

The water filters through the stone cylinder from the outside to the center, passing out at the goose-neck tube connected with the orifice in the stone. All the dirt is therefore deposited on the surface, and when necessary, the stone is lifted out easily, cleaned under the faucet, all in less than half a minute. The impurities extracted from the water are thereby washed off and the inner walls of the metallic shell, which is open top and bottom, are cleaned by the rubbers on the cylinder each time it is removed. In other filters there is no provision for cleaning the inside of the shell, which soon becomes foul.

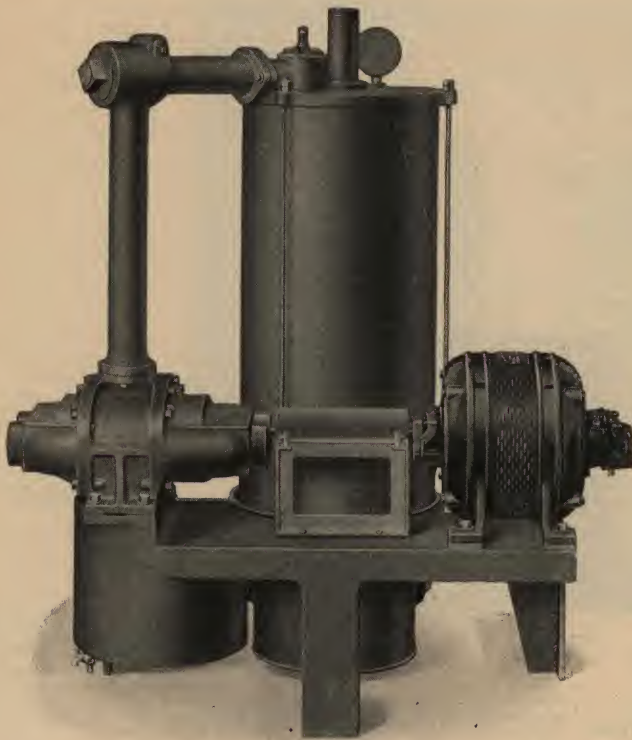
Number	1	2	3
Size stone, inches.....	2½x10	3x12	3½x14
Capacity, gallons per hour.....	15	25	50
Each	\$7.50	\$12.50	\$17.50



2700 N



No. 341



3504 N

No. 343



3505 N

ARCO WAND VACUUM CLEANER, PLATE 3504 N
(Stationary Type.)

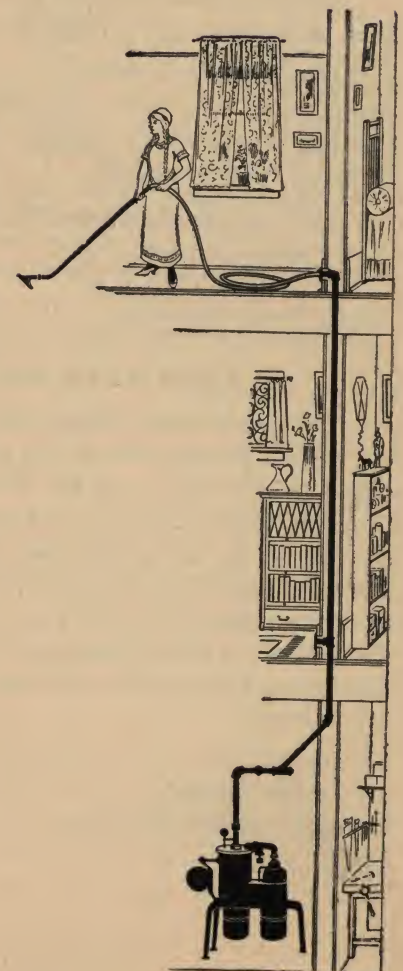
- No. 341—Suitable for cleaning cottages, houses, small apartments, etc., with ½-H. P. electric motor, including equipment No. 1.....\$150.00
- No. 351—Suitable for cleaning larger residences and apartments, with ¾-H. P. electric motor, including equipment No. 1..... 240.00
- No. 461—Suitable for mansions, larger buildings, school houses, churches, libraries, banks, etc., with 1½-H. P. electric motor, including equipment No. 2..... 360.00
- No. 462—Same as No. 461, except with 2-H. P. electric motor..... 385.00
- No. 34—Suitable for cleaning cottages, small apartments, etc., without motor, but suitably arranged to be driven from line shaft or gasoline engine, including equipment No. 1..... 115.00
- No. 46—Suitable for mansions, large buildings, schools, libraries, banks, etc., without motor, but suitably arranged to be driven from line shaft or gasoline engine, including equipment No. 2 290.00

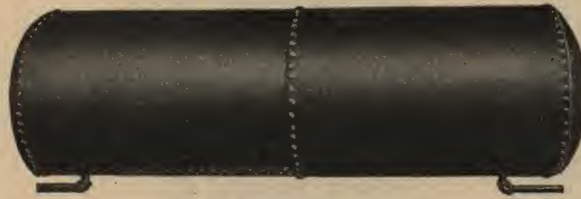
ARCO WAND VACUUM CLEANER, PLATE 3505 N
(Light Truck Portable Type.)

- No. 343—Designed for vacuum cleaning in office buildings, hotels, apartment buildings, stores, restaurants, schools, churches, banks, libraries, etc. \$180.00

Equipment No. 1 consists of 1 handle with swivel joint, 1 tuft cleaner, 1 4-inch renovator, 1 10-inch renovator, 1 12-inch felted sweeper, 1 duster, 1 35-foot length 1-inch hose and coupling.

Equipment No. 2 consists of 1 handle with swivel joint, 1 tuft cleaner, 1 4-inch renovator (adjustable suction type), 1 12-inch renovator (adjustable suction type), 1 12-inch felted sweeper, 1 duster, 2 25-foot lengths 1-inch rubber hose and couplings, or 1 50-foot length metallic hose.





2710 N

KONGCO HOME WATERWORKS TANK, PLATE 2710 N

Diameter, Inches	Length, Feet	Weight, Pounds	Capacity, Gallons	Each	Diameter, Inches	Length, Feet	Weight, Pounds	Capacity, Gallons	Each
24	6	445	145	\$ 58.00	42	10	1,650	720	\$170.00
24	8	560	195	68.00	42	12	1,900	865	196.00
24	10	675	245	74.00	42	14	2,200	1,000	219.00
30	6	560	220	70.00	42	16	2,400	1,150	236.00
30	8	700	295	88.00	48	10	2,000	940	240.00
30	10	870	365	102.00	48	12	2,320	1,130	250.00
30	12	900	440	115.00	48	14	2,610	1,300	274.00
36	6	750	315	92.00	48	16	2,900	1,500	304.00
36	8	900	420	112.00	48	18	3,600	1,700	351.00
36	10	1,050	525	131.00	48	20	3,950	1,880	393.00
36	12	1,200	630	141.00	48	24	4,650	2,260	437.00
42	8	1,450	570	150.00					

Prices of galvanized tanks and tanks of larger size quoted on application.

All of our tanks have double riveted longitudinal seams, and are tested to 125 pounds air pressure.

Vertical tanks can be furnished at same price if so desired.

KONGCO HOME WATERWORKS SYSTEM

No matter where you live, the combination of a well, a pump and a KONGCO air-pressure tank will give you a water service equal to that of a city waterworks. A force pump is used to pump the water into the tank, and may be operated by hand, windmill, gasoline engine or other power. The tank is specially constructed, air tight, and of whatever size may be best suited to your requirements. It can be placed in the basement of a building, or can be buried in the ground, but when buried in the ground the pit should be built so it is accessible. Besides furnishing ample water for domestic purposes, this system will be found very convenient in case of fire.

The average pressure maintained in the system when hand power is used is about 40 pounds, and when gasoline or windmill power is used, the pressure can be maintained as high as 80 pounds.

The operation of the system is very simple. The tank is air tight and the water is pumped into it, compressing the air. The more pumping the more the air is compressed and the greater the pressure.

When connected to windmill power we can furnish a regulating cylinder for throwing the mill out of gear when sufficient water is in the tank.

The system can be fitted with air-pressure gauge, showing the amount of pressure in the tank.

We can also furnish auxiliary air pump for pumping air into the tank for the purpose of increasing the pressure when the supply of compressed air is low.

An air-pressure gauge should always be used with our home waterworks system. When you begin to pump, the water is forced into the bottom of the tank and begins to displace some of the air in it. The air, being confined, must be compressed into a smaller volume, and as water filling the tank displaces air, the compressed air begins to exert a force which is known as pressure. The pressure forces the water to wherever there are outlets.

The amount of water being pumped into the tank can easily be determined by the following pressures when shown on the air-pressure gauge:

- | | |
|--|---|
| At 5 pounds pressure the tank is $\frac{1}{4}$ full of water. | At 25 pounds pressure the tank is $\frac{2}{3}$ full of water. |
| At 10 pounds pressure the tank is $\frac{2}{5}$ full of water. | At 30 pounds pressure the tank is $\frac{7}{10}$ full of water. |
| At 15 pounds pressure the tank is $\frac{1}{2}$ full of water. | At 45 pounds pressure the tank is $\frac{3}{4}$ full of water. |
| At 20 pounds pressure the tank is $\frac{3}{5}$ full of water. | At 60 pounds pressure the tank is $\frac{4}{5}$ full of water. |

For every pound of pressure indicated on the gauge, the pressure will force the water through a vertical pipe to a height of 27 inches. In other words, 10 pounds pressure will elevate water 22½ feet, and 60 pounds pressure will elevate the water 135 feet above the tank.



KONCO HOME WATERWORKS SYSTEM, WITH GASOLINE ENGINE, PLATE 2711 N

This combination illustrates the KONCO home waterworks system, with Novo gasoline engine and auxiliary air pump. The tank has a total capacity of 420 gallons and will deliver 320 gallons of water, an amount sufficient to supply an ordinary family four days for kitchen and bathroom purposes. A complete outfit consists of the following:

One 2½ horse power engine, with walking beam.

One 36-inch diameter by 8 feet long air pressure tank, capacity 420 gallons, weight 900 pounds.

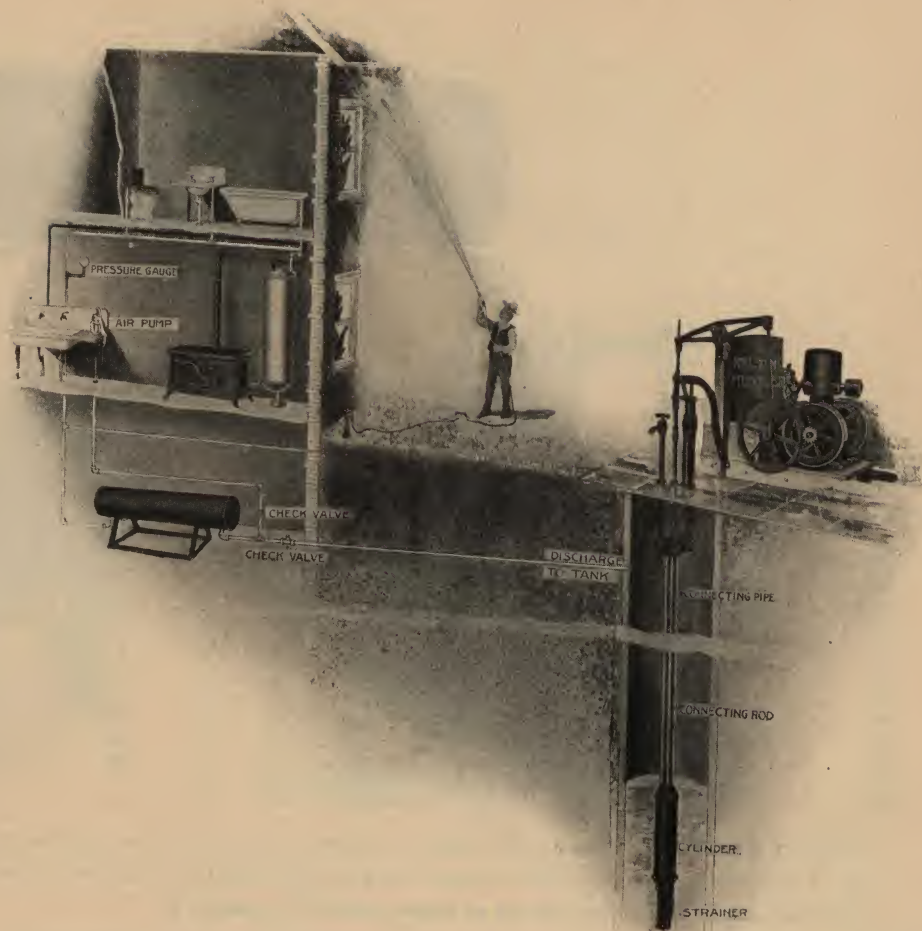
One 5-inch air pressure gauge.

One KONCO air pressure pump, Fig. 1210.

One 3-way force pump, Fig. 1391.

One 3-inch by 12-inch brass-lined cylinder.

Complete outfit\$300.00



2711 N

General Rules for Installing Home Waterworks System

SUCTION PIPE—Suction pipe must be absolutely air-tight, clean and free from scale or dirt. It should be short and direct, sloping upward to pump. Avoid all overhead loops and bends.

DISCHARGE PIPE—Discharge pipe may be any length or form desired, but should be connected into the compression tank exactly as illustrated above. No service connections should be taken from discharge pipe between pump and tank, as all air coming along with the water would go to top fixtures instead of into the tank if connected otherwise.

STARTING—When starting a pump for the first time be sure to relieve all pressure on the pump until same is pumping a full stream.

PRIMING PUMP—In case the pump fails to pick up water promptly, fill the pump chamber with water.

COMPRESSION OR PNEUMATIC TANKS—Use a good tank. The success of any direct-pressure pneumatic system depends on the tank being tight and on an ample supply of air being supplied to the tank.

AIR SUPPLY—There are means provided with all "V. & K." direct-pressure pumps for pumping air into the tanks, and directions are furnished with each attachment. The success of the system depends on the air supply, and care should be used to see that a plentiful supply of air is contained in the tank at all times.

RELIEF VALVE—No direct-pressure system should be installed without a relief valve. The "V. & K." relief valve was made for this particular service. Do not install any direct-pressure system without some relief.

ELECTRIC INFORMATION—Volts in electricity is the same as pounds pressure in water. Amperes in electricity is the same as gallons in measuring water.

Electric motors suitable for operating water pumps must be made special. They have to have several times a full load power in starting, and in order to get these characteristics in a motor it requires several times the volume of current to start it than is required when running. Liberal size wires from the transformer to the house and from the meter to motor are necessary to take care of the large volume of current required to start the motors against pressure. (See directions with each motor.) If the motor fails to start up promptly and seems much overloaded it is a sure sign of low voltage. Low voltage is caused by the transformer being too small, wires from transformer to house being too small, wires from meter to motor being too small, or poor electric service.



2712 N

**XOXCO HOME WATERWORKS SYSTEM,
PLATE 2712 N**

For use where water level is not more than twenty vertical feet below pump.

Outfit consists of 1 XOXCO air-pressure tank, 30 in. by 6 ft., total capacity 220 gallons, working capacity 145 gallons; 1 double-acting force pump with 2½-inch brass-lined cylinder.

All valves, gauges, wood supports, pipe and fittings, as shown above, including foot valve.

Complete as described.....\$82.00

If with 30 in. by 8 ft. tank, total capacity 295 gallons, working capacity 195 gallons..... 94.00



2713 N

**XOXCO HOME WATERWORKS SYSTEM,
PLATE 2713 N**

For use where water level is not more than twenty vertical feet below pump.

Outfit consists of 1 XOXCO air-pressure tank, 24 in. by 6 ft., total capacity 140 gallons, working capacity 90 gallons; 1 double-acting force pump with 2½-inch brass-lined cylinder.

All valves, gauges, pipe and fittings, as shown.

Complete as described.....\$73.00

If with 30 in. by 6 ft. tank, total capacity 220 gallons, working capacity 145 gallons..... 82.00



2714 N

**XOXCO HOME WATERWORKS SYSTEM,
PLATE 2714 N**

For wells not over twenty-six feet in depth, to be operated by hand or windmill.

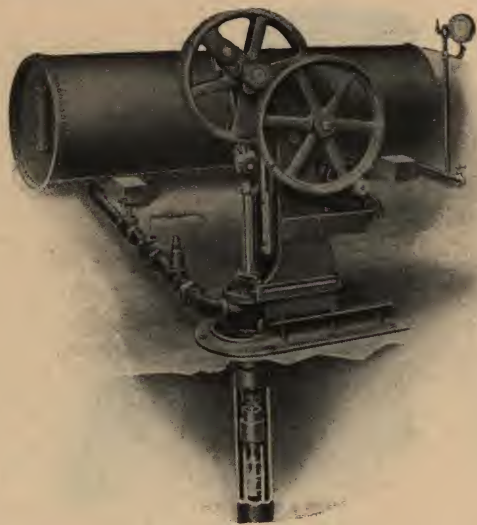
Outfit consists of 1 XOXCO air-pressure tank, 30 in. by 6 ft., total capacity 220 gallons, working capacity 145 gallons; 1 hand force pump, complete with 2½-inch brass-lined cylinder, and special intake air valve.

All valves, gauges, wood supports, pipe and fittings, complete as shown.

Complete as described.....\$ 88.00

If with 30 in. by 8 ft. tank, total capacity 295 gallons, working capacity 195 gallons..... 100.00

If desirable to have power air pump, see page 285 for Model B compressors.
For other sizes and prices of compressed air tanks, see page 209.



2715 N

**KONCO HOME WATERWORKS SYSTEM,
PLATE 2715 N**

Electric-driven, for open or cased deep wells.

Outfit consists of 1 KONCO air-pressure tank, 36 in. by 10 ft., total capacity 525 gallons, working capacity 350 gallons; deep-well pump head, 8-inch stroke, fitted with 3-inch brass-lined, steel-cased, ball-valve cylinder, direct geared drive with rawhide pinion; one H. P. alternating-current single-phase 60-cycle, 110 or 220-volt motor, for maximum elevation 175 feet.

All valves, gauges, supports, pipe and fittings.

Complete as shown.....\$513.00

If with 42 in. by 10 ft. tank, total capacity 720 gallons, working capacity 480 gallons and 12-inch stroke pump head with 2 H. P. motor, maximum elevation 225 feet..... 748.00

If with automatic controller, add..... 40.00

Air compressor is attached direct to working head for furnishing ample air supply; drive may be detached when not wanted to pump air. 1 5/8-inch wood rod and 3-inch pipe recommended for above.

**KONCO HOME WATERWORKS SYSTEM,
PLATE 2717 N**

For open or cased deep wells.

Outfit consists of 1 KONCO air-pressure tank, 30 in. by 8 ft., total capacity 295 gallons, working capacity 195 gallons; deep-well working head, 8-inch stroke, capacity 7 gallons per minute against 225 feet total head, equipped with 2 1/2-inch brass-lined water cylinder; special air cylinder, 2 H. P. alternating-current single-phase, 60-cycle, 110 or 220-volt motor; automatic controller, set to start motor at 35 pounds minimum and stop at 50 pounds maximum.

All valves, gauges, wood supports, pipe and fittings, as shown.

Complete as described..... \$435.00

If with 30 in. by 10 ft. tank, total capacity 365 gallons, working capacity 240 gallons..... 443.00

For other sizes and prices of compressed air tanks, see page 209.



2716 N

**KONCO HOME WATERWORKS SYSTEM,
PLATE 2716 N**

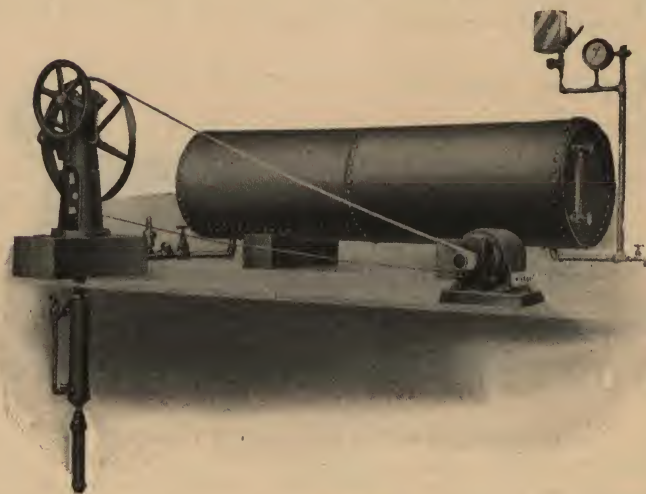
For use where water level is not more than twenty vertical feet below pump.

Outfit consists of 1 KONCO air-pressure tank, 36 in. by 10 ft., total capacity 525 gallons, working capacity 350 gallons; two-H. P. hopper-cooled direct-connected shallow well pumping unit, equipped with large air compressor attached tandem to water cylinder, automatic circuit breaker for stopping engine.

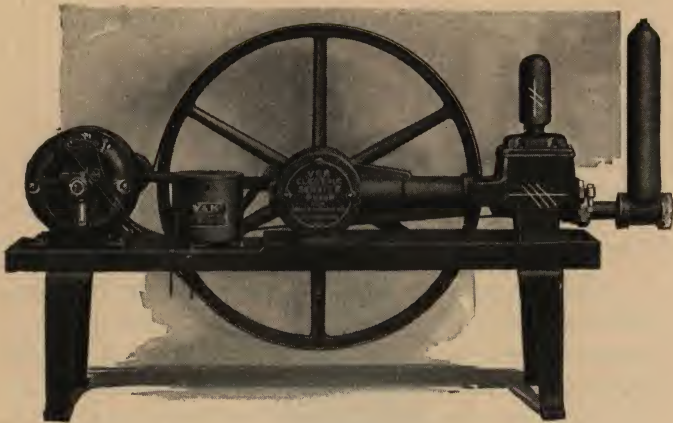
All valves, gauges, wood supports, pipe and fittings, complete as shown.

Complete as described.....\$355.00

If with 42 in. by 10 ft. tank, total capacity 720 gallons, working capacity 480 gallons..... 392.00



2717 N



2722 N

**"V & K" ELECTRIC SHALLOW WELL PUMPS,
PLATE 2722 N**

"V & K" electric shallow well pump is for wells not over 22 feet deep, may be placed at any convenient place and the suction pipe run to the well.

The complete outfit includes the motor, pump and automatic electric switch all mounted on a heavy iron base on legs, air chamber for suction, "V & K" pressure relief valve, and union connections for suction and discharge; also special air pumping attachment for supplying air to tank, and handle for operating by hand when necessary.

Table of Sizes, Capacities, Dimensions and Weights

Size number.....	3	5	7
Gallons per hour.....	180	360	720
Pressure, pounds.....	50	50	50
Size of pipe, suction, inches.....	3/4	1	1 1/4
Size of pipe, discharge, inches.....	1/2	3/4	1
Length, inches.....	33	41	52
Width, inches.....	10	13	13
Height, inches.....	24	27	31
Shipping weight, pounds.....	150	250	310
Number.....	3	5	7
Plate 2722 N, with a motor for either 110 or 220 volt, 60 cycle, single phase, alternating current.....	\$150.00	\$195.00	\$250.00
Plate 2722 N, with a motor for either 110 or 220 volt direct current.....	130.00	175.00	240.00
Plate 2722 N, with a motor for either 25, 30, 40, 50, 125 or 133 cycle, single phase, 110 or 220 volt alternating current.....	162.00	215.00	270.00
Plate 2722 N, with a motor for 30 or 60 volt direct current for operating from country lighting systems.....	150.00	195.00	250.00
Plate 2722 N, complete, except without motor or motor pulley.....	85.00	110.00	150.00

Cost to Operate

The average cost to operate is about 6 1/2 to 8 cents per 1,000 gallons, based on an electric current rate of 10c per kilowatt.

"V & K". ELECTRIC DEEP WELL PUMPS, PLATE 2723 N

"V & K" electric deep well pump, for wells from 25 to 200 feet deep, must be placed directly over the well. It is provided with a frostproof set length so arranged that the discharge pipe to the house may be taken off below frost line. Complete outfit includes motor, power head, differential frostproof set length, well cylinder, air compressor, automatic electric switch, handle for operating by hand when necessary, and "V & K" pressure relief valve. Drop pipe and steel sucker rod are not included.

Table of Sizes, Capacities, Dimensions and Weights

Size number.....	203	205	205-X	207	207-X	207-Y
Gallons per hour.....	150	300	150	600	375	190
Depth to water level, feet.....	22-50	22-50	50-125	22-50	50-125	125-200
Drop pipe, inches.....	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Discharge, inches.....	3/4	1	3/4	1 1/4	1	3/4
Length, inches.....	31	34	34	40	40	40
Width, inches.....	12	14	14	16	16	16
Height, inches.....	31	32	32	40	40	40
Shipping weight, pounds.....	200	275	275	400	400	400
Number.....	203	205	205-X	207	207-X	207-Y
Plate 2723 N, with a motor for either 110 or 220 volt, 60 cycle, single phase, alternating current.....	\$170.00	\$220.00	\$220.00	\$280.00	\$280.00	\$280.00
Plate 2723 N, with a motor for either 110 or 220 volt direct current.....	160.00	210.00	210.00	270.00	270.00	270.00
Plate 2723 N, with a motor for either 25, 30, 40, 50, 125 or 133 cycle, single phase, 110 or 220 volt, alternating current.....	190.00	240.00	240.00	300.00	300.00	300.00
Plate 2723 N, with a motor for 30 or 60 volt, direct current for operating from country lighting systems.....	170.00	220.00	220.00	.....	.....	.....
Plate 2723 N, with motor for 110 or 220 volt, 60 cycle, 2 or 3 phase, alternating current.....	.....	.....	.....	270.00	270.00	270.00
Plate 2723 N, complete except without motor or motor pulley.....	95.00	116.00	116.00	170.00	170.00	170.00



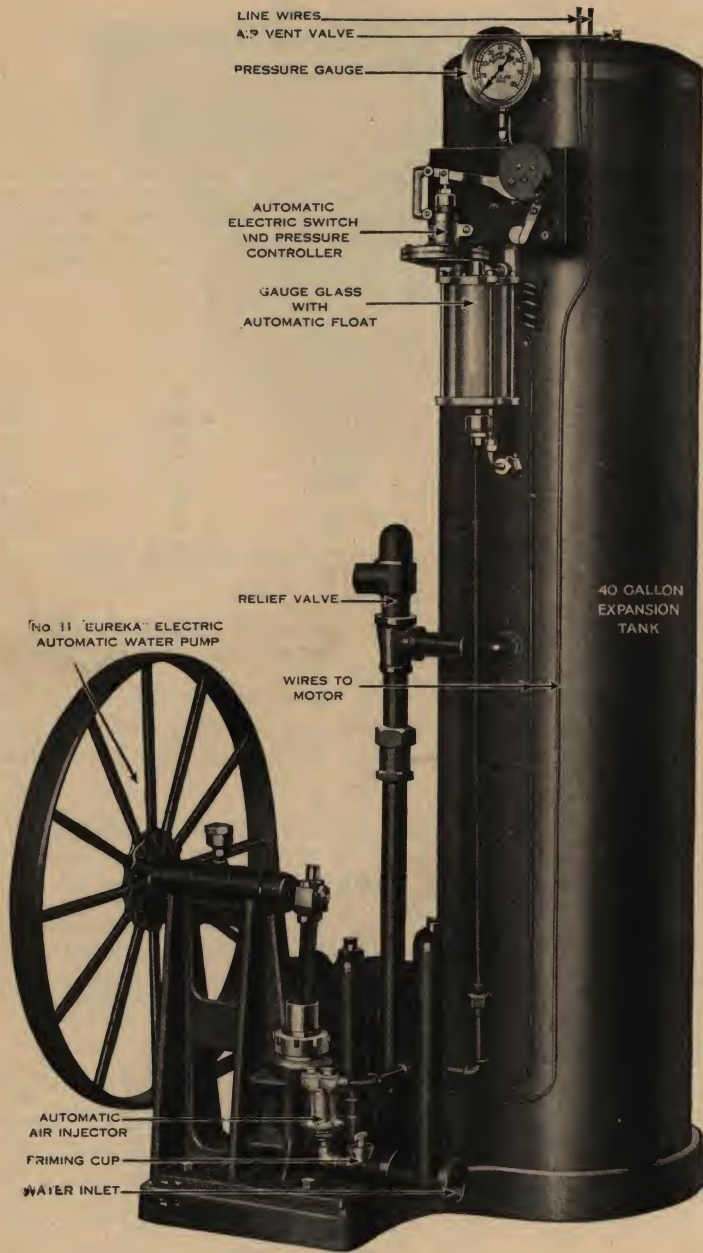
2723 N

Note.—If no automatic electric switch is wanted, deduct \$20.00 list from above prices.

In ordering always specify whether motor is for 110 or 220 volt current, as these motors are not interchangeable. All motors furnished are for continuous service.

"V & K" Fresh Water Attachment

"V & K" fresh water attachment for use exclusively with "V & K" systems, each.....\$5.00



2733 N

THE "EUREKA" ELECTRIC AUTOMATIC WATER SYSTEM, PLATE 2733 N

The "Eureka" electric automatic system is a pneumatic pressure water system of improved type. It supplies plenty of water year in and year out, without attention. The automatic air injector automatically maintains just the right proportion of air in the tank, regardless of the amount absorbed by the water, so it is never necessary to drain the tank. The system is entirely automatic and absolutely noiseless in operation; remarkably simple, and is durably constructed throughout. It is shipped in only two parts and is easily and quickly assembled. The operating expense is exceptionally low.

It can be used where the suction lift does not exceed 15 feet. It may be used, however, with suction lifts up to 25 feet if properly primed, as an improved type foot valve is furnished.

Plate 2733 N water system consists of the No. 11 "Eureka" electric water pump, with automatic air injector, automatic electric switch and pressure controller, 40-gallon galvanized expansion tank, gauge glass with automatic float, pressure gauge, water relief or safety valve, air vent valve, drain cock and foot valve with strainer, together with a 1/6 H. P. direct or alternating current motor.

The pumping capacity is 150 gallons per hour. The motor regularly furnished will provide pressures up to 35 pounds. If a greater pressure is required, the pump must be ordered with a larger motor.

The automatic electric switch, by means of the pressure controller, automatically starts motor when a certain amount of water has been used.

Specifications of The "Eureka" Electric Automatic Water System, Plate 2733 N

Capacity, gallons per hour, 150; maximum height water can be pumped at 35 pounds pressure, through vertical pipes, 80 feet; maximum suction lift, through vertical pipes, 15 feet. (The suction lift may be increased up to 25 feet if pump is properly primed, as an improved type foot valve is furnished.) Motor, either direct or alternating current, 1/6 H. P. Specify voltage when direct-current motor is required, and voltage and cycles if alternating current. Expansion tank (galvanized), size 14 inches wide by 60 inches high, capacity 40 gallons, size tapings 1 inch. Pump suction, 1 1/4 inches. Tank discharge, 1 inch. Height over all, 62 inches. Floor space occupied, 29x33 inches. Shipping weight, 560 pounds.

Complete, with either direct or alternating current motor\$210.00

The outfit described above is only one of the complete "Eureka" line of water pumps and systems, operated by electricity, gasoline engine, water pressure or by hand. The line also includes the "Eureka" pneumatic-tank water systems, with which a water supply of from 140 to 1,000 gallons capacity is made possible.

Ask for complete catalogue of "Eureka" automatic water pumps and systems, with prices and complete data.



2733 AN



2733 BN

PLAIN YOKE BASE TYPE, PLATE 2733 AN

Size	4x6	4x8	5x12	6x12	6x24	6x36	7x24	7x36	8x24	8x36
Diameter steam cylinder, inches.....	4	4	5	6	6	6	7	7	8	8
Stroke, inches.....	6	8	12	12	24	36	24	36	24	36
Steam pipe, inches.....	3/8	3/8	1/2	3/4	3/4	3/4	1	1	1	1
Exhaust pipe, inches.....	3/4	3/4	3/4	1	1	1	1 1/4	1 1/4	1 1/2	1 1/2
Well rod, inches.....	3/8	3/8	1/2	1/2	3/4	3/4	3/4	3/4	1	1
Well pipe, inches.....	2	2	2 1/2	3	3	3	3	3	5	5
Discharge pipe, inches.....	1 1/4	1 1/4	2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	3 1/2	3 1/2
Diameter floor space, inches.....	8	8	12	12	18	18	18	18	22	22
Weight, pounds.....	80	85	200	250	450	500	480	525	900	920
Plate 2733 AN, each.....	\$40.00	\$50.00	\$80.00	\$100.00	\$175.00	\$250.00	\$200.00	\$275.00	\$250.00	\$300.00

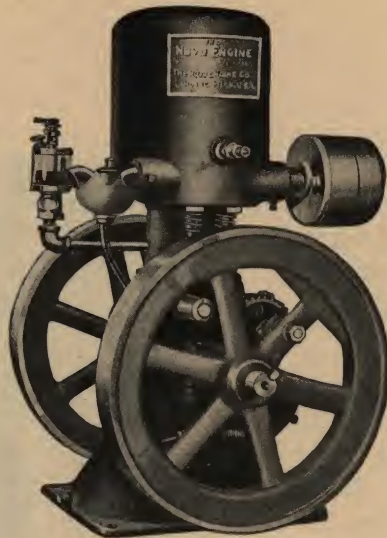
MARSH DEEP WELL PUMPING ENGINES, DIRECT STEAM HINGED BASE TYPE, PLATE 2733 BN

Size	6x24	6x36	8x24	8x36	10x24	10x36	12x24	12x36	14x24	14x36	16x24	16x36
Diameter steam cylinder, inches.....	6	6	8	8	10	10	12	12	14	14	16	16
Stroke, inches.....	24	36	24	36	24	36	24	36	24	36	24	36
Steam pipe, inches.....	3/4	3/4	1	1	1 1/2	1 1/2	1 1/2	1 1/2	2	2	3	3
Exhaust pipe, inches.....	1	1	1 1/2	1 1/2	2	2	2	2	2 1/2	2 1/2	3 1/2	3 1/2
Well rod, inches.....	3/4	3/4	1	1	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Well pipe, inches.....	4	4	5	5	6	6	6	6	7	7	8	8
Discharge pipe, inches.....	3 1/2	3 1/2	4	4	5	5	5	5	6	6	7	7
Diameter floor space, inches....	22	22	24	24	30	30	30	30	32	32	36	36
Weight, pounds.....	800	900	1,150	1,300	1,700	1,850	1,875	2,100	2,900	3,350	3,150	3,650
Plate 2733 BN, each.....	\$225.00	\$300.00	\$300.00	\$350.00	\$350.00	\$400.00	\$400.00	\$450.00	\$575.00	\$625.00	\$650.00	\$700.00

Unless otherwise ordered, flanges for well and delivery pipes will be threaded standard iron pipe sizes as above. If wanted special be careful to indicate size, and state whether pipe or casing thread is wanted, also if U. S. or other tubes are to be used.

If order includes both engine and pump cylinder we will in all cases provide flange for engine base with same size pipe connection as top of water cylinder cap.

Our piston rod couplings and water cylinder plungers are threaded standard U. S. pipe sizes, and "sucker rods" may be either made up of coupled pipe sections, or wooden rods may be used having suitable straps for attaching at ends to bucket and piston.



2734 N

NOVO JR. ENGINE, PLATE 2734 N

Novo Jr. engines, designed primarily for house and farm pumping, operating spray pumps, etc.

	Novo Jr.	1½ H. P.	2½ H. P.	3 H. P.	3½ H. P.	4 H. P.	5 H. P.	6 H. P.	7-8 H. P.	10 H. P.	12 H. P.	15 H. P.	
Size of engine.....	600	600	525	525	475	475	450	450	425	400	400	400	
Speed, revolutions per minute....	15	15	18	18	20	20	24	24	29	29	30	30	
Diameter fly wheel, inches.....	13¼	13¼	2½	2½	2½	2½	2¾	2¾	3	3¾	3¾	3¾	
Fly wheel face, inches.....	1½	1½	1½	1½	1¾	1¾	2	2	2¾	2¾	2¾	2¾	
Diameter crank shaft, inches....	4	4	6	6	8	8	14	14	18	18	20	20	
Diameter pulley, inches.....	3	3	4	4	5	5	6	6	8	8	8	8	
Face pulley, inches.....	25	28	33¾	33¾	38	38	42¾	42¾	51	56	56	56	
Height, inches.....	1	1¾	2½	2½	3½	3½	6	6	11	11	15½	15½	
Fuel tank capacity, gallons.....	200	250	425	450	525	560	800	850	1,285	1,675	2,000	2,100	
Shipping weight, pounds.....	Each	\$70.00	\$80.00	\$130.00	\$140.00	\$170.00	\$180.00	\$240.00	\$260.00	\$350.00	\$400.00	\$600.00	\$650.00

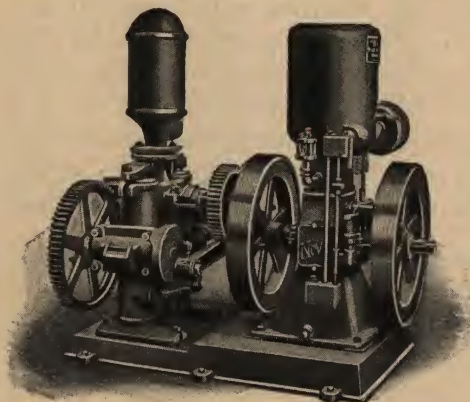
NOVO ENGINE, WITH DETACHABLE BACK GEARED PUMP JACK, PLATE 2735 N

Size of Engine	Back Geared	Strokes per Minute	Length Stroke, Inches	Shipping Weight, Pounds	Each
Novo Jr., with attached jack.....	12 to 1	50	4, 5, 6, 8 or 9½	300	\$85.00
Novo Jr., with detachable jack.....	16 to 1	37	4, 5, 6, 8 or 9½	300	85.00
1½ H. P., with attached jack.....	12 to 1	50	4, 5, 6, 8 or 9½	350	105.00
1½ H. P., with detachable jack.....	16 to 1	37	4, 5, 6, 8 or 9½	260	105.00
2½ H. P.....	9 to 1	55	4, 5, 6, 7, 8 or 9	500	160.00
3½ H. P.....	11 to 1	45	4, 5, 6, 7, 8, 9 or 10	685	240.00
4 H. P.....	11 to 1	45	4, 5, 6, 7, 8, 9 or 10	725	250.00
5 H. P.....	13 to 1	34	5, 6, 8 or 10	975	320.00
6 H. P.....	13 to 1	34	5, 6, 8 or 10	1,000	340.00



2735 N

NOVO DIRECT-CONNECTED SUCTION AND FORCE PUMPING OUTFITS, PLATE 2736 N

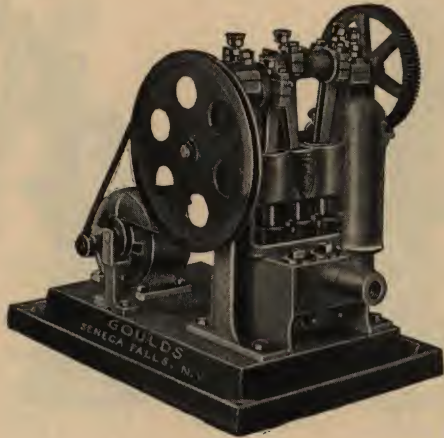


2736 N

Outfit No.	H. P. Engine	Pump No.	Cylinder Diameter, Inches	Length Stroke, Inches	No. Strokes per Minute	Size Suction and Discharge Pipe, Inches	Capacity Gallons per Hour Pump Displacement	Shipping Weight, Pounds	Each
10	1½	531	3	5	43	1½	790	700	\$205.00
11	2½	531	3	5	50	1½	875	940	235.00
12	1½	532	4	5	43	2	1,380	750	225.00
13	2½	532	4	5	50	2	1,590	1,000	255.00
13½	4	532	4	5	60	2	1,900	1,075	290.00
14	2½	533	5	5	40	2½	2,040	1,050	286.00
15	3½	533	5	5	50	2½	2,500	1,100	330.00
49	4	534	6	6	40	3	3,400	1,510	400.00
50	5	534	6	6	50	3	4,300	1,540	420.00



Fig. 1009



2737 N

Fig. 1531



2738 N

GOULDS CROSS-HEAD GUIDED TRIPLEX PUMP, WITH EXTENDED BASE PLATE AND IDLER FOR SHORT BELT DRIVE FROM MOTOR, PLATE 2737 N

Gallons displaced per minute.....	2	4	9	12	18	25
Size pump, diameter, inches	1¼	1¾	2	2½	3	3
Size pump, stroke, inches	2	2½	3	4	4	4
Displacement one revolution of crank-shaft, gallons.....	0.031	0.078	0.122	0.255	0.367	0.367
Revolutions per minute.....	67	52	75	48	50	70
Horse power, 100 pounds pressure.....	.30	.32	.90	1.10	1.60	2.00
Size pipe, suction, inches	¾	1	1¼	1½	1½	1½
Size pipe, discharge, inches	¾	1	1¼	1½	1½	1½
Weight, pounds	190	315	350	550	600	600
Each, without motor.....	\$75.00	\$95.00	\$105.00	\$145.00	\$165.00	\$165.00

Add for air cylinder attachments, Fig. 1634, \$40.00.

Can furnish in sizes up to 300 gallons. Prices on application.

GOULDS PYRAMID PUMP, PLATE 2738 N

Pistons, diameter, inches	2½	3	4	5	6	6
Pistons, stroke, inches	4	5	5	5	6	12
Capacity one revolution crank-shaft, gallons.....	.162	.293	.531	.823	1.440	2.870
Usual speed per minute, revolutions.....	38	41	40	40	40	40
Usual capacity per minute, gallons.....	6	12	21	33	57	114
For elevation to feet.....	175	175	175	175	175	175
Horse power of motor required.....	.50	1.00	1.50	3.00	5.00	7.50
Size pipe, suction, inches	1¼	1½	2	2½	3	4
Size pipe, discharge, inches	1¼	1½	2	2½	3	4
Geared	5 to 1	5 to 1	5 to 1	5 to 1	5 to 1	6 to 1
Tight and loose pulleys, inches.....	8x2	15x2½	15x3	16x4	20x4	26x4
Weight, pounds	160	280	325	500	645	875
Each	\$60.00	\$82.50	\$97.50	\$127.50	\$150.00	\$225.00

Add for special air cylinder attachment, complete, Fig. 1567. \$15.00 on sizes 2½x4, 3x5 and 4x5.

Fig. 1210

Fig. 4000



2739 N

GOULDS TWO-CYLINDER HAND AIR PUMP, PLATE 2739 N

Cylinder—discharge, 3½ inches; stroke, 5 inches. Discharge ¾-inch iron pipe....\$25.00

GOULDS NEW LIGHTNING AIR PUMP, PLATE 2740 N

Cylinder—diameter, 3¼ inches; stroke, 5½ inches. Discharge ¾-inch hose.....\$10.00



2740 N



Fig. 205½



3609 N

Fig. 1170



3610 N

Fig. 200



3611 N

Fig. 202½



3612 N

PITCHER-SPOUT PUMP, PLATE 3609 N

Number	1	2	3	4	5	6
Diameter cylinder, inches.....	2½	3	3½	4	4½	5
Suction, inches	1	1¼	1½	1¾	2	2½
Iron, each	\$2.10	\$2.35	\$2.60	\$3.10	\$4.75	\$ 8.50
Brass lined, each.....	4.00	4.50	5.00	5.65	7.80	14.00

PITCHER-SPOUT PUMP, WITH BRASS CYLINDER, PLATE 3610 N

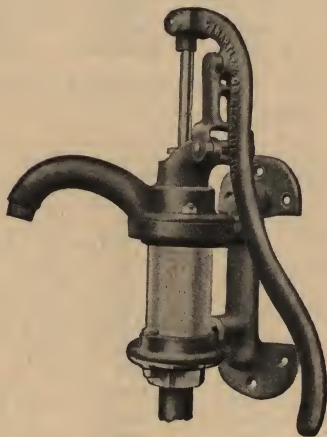
Cylinder, 3 inches; suction, 1¼ inches; nickel plated, each..... \$5.75

REVOLVING TOP CISTERN PUMPS, PLATE 3611 N AND PLATE 3612 N

For Suction Lift of 25 feet.

Number	0	1	2	3	4	5	6
Diameter, inches	2	2¼	2½	2¾	3	3¼	3½
Suction, inches	1	1	1¼	1½	1¾	2	2½
Stroke, inches	5	6	6	6	6	6	6
Iron, each	\$3.10	\$3.50	\$3.90	\$4.40	\$4.80	\$5.70	\$ 7.00
Brass lined, each.....	5.00	5.25	5.75	6.50	7.00	8.50	10.00

Fig. 451



3613 N

Fig. 453



3614 N

Fig. 454



3615 N

HARTLEY BRACKET PUMPS, PLATE 3613 N TO PLATE 3615 N

With Brass Cylinder.

Cylinder, 2½ inches; brass finish, each.....	\$8.00
Cylinder, 2½ inches; nickel plated finish, each.....	8.50

UNIVERSAL HOUSE FORCE PUMPS, PLATE 3616 N AND PLATE 3617 N

Lift and Force, 75 feet.

This pump is well adapted for house pumping, furnishing water either at the spout or through opening at back to storage tank; also for outdoor use over driven wells.

Plate 3617 N, same as above, except with cock spout.

Number	2	6
Diameter, inches	2½	3½
Suction, inches	1¼	1½
Stroke, inches	4	4
Plate 3616 N (Fig. 1168), iron, each	\$ 7.50	\$ 9.40
Plate 3617 N (Fig. 1169), iron, each	9.40	11.25
Plate 3616 N (Fig. 1168), brass cylinder, each.....	8.75	11.90
Plate 3617 N (Fig. 1169), brass cylinder, each.....	10.65	13.75

Fig. 1168



3616 N

Fig. 1169



3617 N



Fig. 1523



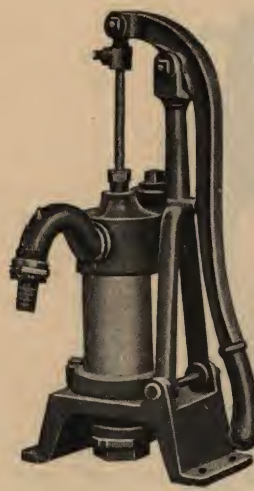
3618 N

Fig. 1523½



3619 N

Fig. 238



3619 AN

Fig. 240



3619 BN

GOULDS BOSTON HOUSE FORCE PUMPS, PLATE 3618 N AND PLATE 3619 N

Lift and Force, 75 feet.

These pumps have large air chamber capacity. Can be arranged to supply water either from the spout or from opening at the back for piping to storage tank. The bearer top can be adjusted to any desired angle.

Plate 3619 N, same as above, except with cock spout.

Number, 4; diameter cylinder, 3 inches; stroke, 4 inches.

Plate 3618 N (Fig. 1523), iron, each.....	\$ 9.40
Plate 3618 N (Fig. 1523), brass lined, each.....	10.60
Plate 3619 N (Fig. 1523½), iron, each.....	11.25
Plate 3619 N (Fig. 1523½), brass lined, each.....	12.50

SURE SHOT HOUSE FORCE PUMPS, PLATE 3619 AN AND PLATE 3619 BN

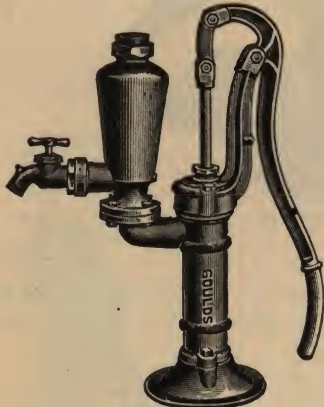
These pumps have brass cylinders, pistons and stuffing box nuts, reversible cast iron head and oscillating fulcrum with hinges at base, ¾-inch spout or hose bibb, 1-inch supplementary perpendicular discharge, 1¼-inch suction, iron pipe connection.

Number	10	11	14	15
Diameter cylinder, inches.....	2½	3	2½	3
Iron pipe connection.....	.....	.....	.....	.....
Plate 3619 AN, each.....	\$8.00	\$8.75	\$.....	\$.....
Plate 3619 BN, each.....	.....	.....	10.00	10.75

These pumps can also be supplied with air chambers, each, extra \$1.00.

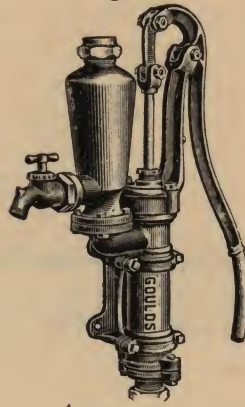
Fig. 1418

Fig. 1412



3620 N

Fig. 1413



3621 N



3622 N

COMBINATION HOUSE FORCE PUMP, PLATE 3620 N

Lift and Force, 50 to 75 feet.

These pumps mounted on base brackets or plank, with air chamber and cock spout on the discharge; plunger rod is brass cased and operates through a brass gland.

Plate 3621 N, same as above, except fitted with brackets for securing to wall or plank.

Number	0	2	4	6	8
Diameter cylinder, inches.....	2	2½	3	3½	4
Suction, inches	1	1¼	1¼	1½	2
Plates 3620 N and 3621 N, stroke, inches.....	5	5	6	6	6
Plate 3622 N, stroke, inches.....	6	6	7	7	.....
Plate 3620 N and 3621 N, iron, each.....	\$12.00	\$12.50	\$14.50	\$21.50	\$22.50
Plates 3620 N and 3621 N, brass lined, each.....	14.50	15.00	17.00	25.00	27.50
Plate 3622 N, iron, each.....	19.50	20.00	21.00	28.00	.....
Plate 3622 N, brass lined, each.....	22.00	22.50	24.50	32.50	.....

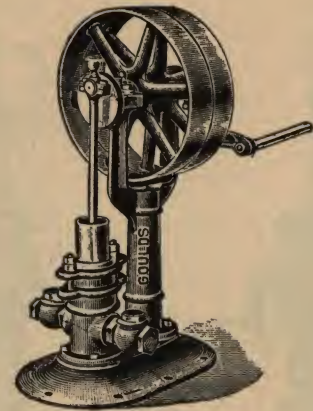


Fig. 482



3623 N

Fig. 484



3624 N

POWER BOILER FEED PUMP, PLATE 3623 N

This pump is adapted for pumping hot and cold water. Crank and pulley are mounted on a strong iron column, which is bolted on base; pulley has a handle on the rim for hand operation. Bronze check valves are furnished.

Plate 3624 N is an improved design with tight and loose pulleys for power, and an iron crank for hand operation.

Number	0	2	4
Diameter cylinder, inches.....	2	2½	3
Suction and discharge, inches.....	1	1	1¼
Stroke, inches	3	3	3
Capacity per minute (60 strokes), gallons.....	2.45	3.82	5.51
Pulleys (Plate 3623 N), inches.....	16x3	18x4	20x4
Pulleys (Plate 3624 N), inches	16x3	16x3	16x3
Plate 3623 N (Fig. 482), each.....	\$57.00	\$61.00	\$65.00
Plate 3624 N (Fig. 484), each.....	65.00	70.00	75.00

Fig. 495



3625 N

Fig. 867



3626 N

HAND BOILER FEED PUMP, PLATE 3625 N

This pump is for feeding boilers while cold or under moderate steam pressure; also for supplying feed water to steam-heating boilers. Has brass plungers, leather packed brass suction valves, brass glands and brass cased piston rods.

Number	0	2	4
Diameter cylinder, inches.....	2	2½	3
Suction and discharge, inches.....	1	1¼	1¼
Stroke, inches	6	6	6
Each	\$26.00	\$30.00	\$34.00

HYDRAULIC PRESSURE OR TEST PUMP, PLATE 3626 N

This pump is of compact design. The suction and discharge valves are flanged and bolted to cylinder, the valves, valve seats and caps are brass.

Number	0	1	2	3
Diameter piston, inches.....	¾	1	1¼	1½
Suction and discharge, inches.....	1	1	1	1
Stroke, inches	5	5	5	5
Working pressure, pounds.....	700	550	400	200
Each	\$25.00	\$25.50	\$26.25	\$27.00



Fig. 1440



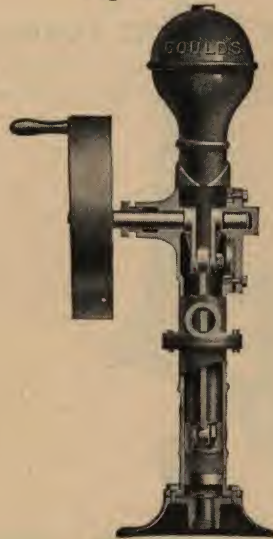
3627 N

Fig. 1566



3628 N

Fig. 1204



3629 N

Fig. 1205



3630 N

COLUMBIA DOUBLE-CYLINDER FORCE PUMP, PLATE 3627 N

Lift and force 75 to 150 feet.

This pump is adapted for a large variety of uses on shipboard, about wharves, factories and residences. The capacity is large and little manual power is necessary to deliver the maximum quantity of water.

Plate 3628 N is same as above pump, except fitted with air chamber and with base.

Number	0	2	4	6	8
Diameter cylinder, inches.....	2	2½	3	3½	4
Suction, inches.....	1	1¼	1½	1¾	2
Stroke, inches.....	3	4	4½	5	5½
Plate 3627 N (Fig. 1440), iron	\$10.00	\$12.00	\$15.00	\$18.00	\$22.50
Plate 3627 N (Fig. 1440), brass lined.....	12.00	15.00	18.00	21.50	27.00
Plate 3628 N (Fig. 1566), iron	14.00	16.50	21.00	25.50	32.00
Plate 3628 N (Fig. 1566), brass lined.....	16.00	19.50	24.00	29.00	37.00

VERTICAL POWER FORCE PUMP, PLATE 3629 N

For lift and force of 50 feet.

This pump, with a flat rim balance wheel adapting it for hand or belt drive for pumping from cisterns, shallow wells and streams, where the vertical suction lift is not more than 25 feet, is for intermittent service and should not be operated at speeds of more than 40 revolutions per minute.

Plate 3630 N is same as above, except fitted with tight and loose pulleys.

Number	4	6
Diameter cylinder, inches.....	3	3½
Suction and discharge, inches.....	1¼	1½
Stroke, inches.....	6	6
Capacity per stroke, gallons.....	18	25
Pulleys, inches.....	15x3	20x3
Plate 3629 N (Fig. 1204).....	\$37.50	\$41.00
Plate 3630 N (Fig. 1205).....	40.00	44.50

BRASS HOUSE FORCE PUMP, PLATE 3631 N

Lift and force 75 feet.

The cylinder and working parts are made of brass, and fitted with a long balanced iron lever and revolving bearer, mounted on an iron frame.

Diameter cylinder, inches.....	1½
Stroke, inches.....	3
Suction, inches.....	1
Discharge, inches.....	¾
Each	\$13.75

GASOLINE HAND PUMP, PLATE 3632 N

This is a well made pump for pumping gasoline from underground storage tanks. The cylinder is brass, with iron top and bottom attachments; plunger is iron and has a brass valve; plunger rod is brass cased and operates through a brass hemp-packed screw gland.

The padlock is not furnished with above pump.

Diameter cylinder, inches.....	2½
Suction, inches.....	1
Stroke, inches	12
Each	\$12.50

Fig. 1122



3631 N

Fig. 1636



3632 N



SAFETY LIFT AND OIL FORCE PUMP, PLATE 3633 N

This pump can be mounted upon a barrel or tank or can be arranged to pump oil from tank in basement or underground storage. Plunger rod is polished steel, working through a brass stuffing box; spout is reversible.

Number	1	2
Diameter cylinder, inches.....	2 1/4	3
Suction, inches	1	1 1/4
Stroke, inches	6	6
Lift and force, feet.....	25	25
Each	\$9.40	\$10.30

Fig. 1120



3633 N.



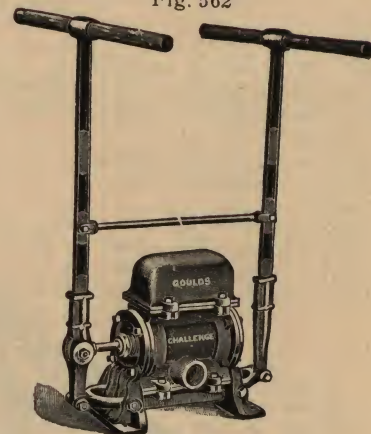
3634 N

Fig. 470



3635 N

Fig. 562



3636 N

RED CROSS HOUSE FORCE PUMP, PLATE 3634 N

Above pump is fitted with brass lined cylinder, cushioned air chamber, brass piston rod and valve seats.

Diameter cylinder, inches.....	3
Suction, inches	1 1/4
Discharge, inches	1
Plate 3631 N, as shown	\$18.00
Plate 3631 N, with pneumatic attachment.....	22.00

CHALLENGE DOUBLE-ACTING FORCE PUMP, PLATE 3635 N

Lift and Force, 100 to 150 feet.

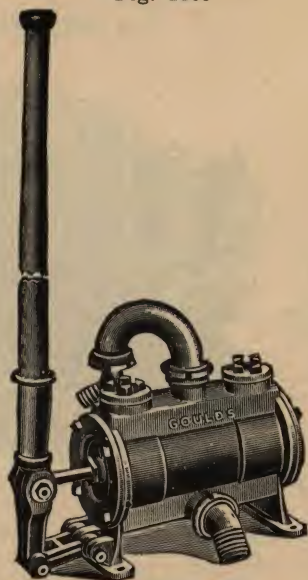
This pump is first-class in every respect. Piston rod is brass cased and operates through a brass packing gland. The valves are brass on brass seats, and cylinders are either brass or brass lined, as ordered.

Plate 3636 N same as above, except fitted with two maleable iron levers and wood handles, and made only in the three larger sizes.

Number	2	4	8	12	16
Diameter cylinder, inches.....	2 1/2	3	4	5	6
Suction, inches	1 1/4	1 1/4	1 1/2	2	2 1/2
Discharge, inches	1	1	1 1/4	1 1/2	2
Plate 3635 N (Fig. 470), brass lined cylinder, each.....	\$ 30.00	\$ 31.00	\$ 34.00	\$ 45.00	\$ 56.00
Plate 3635 N (Fig. 470), brass cylinder, each	82.00	82.00	90.00	135.00	180.00
Plate 3635 N (Fig. 470), all brass, each.....	112.00	112.00	135.00	225.00	275.00
Plate 3636 N (Fig. 562), brass lined cylinder, each.....	.....	.....	40.00	50.00	60.00
Plate 3636 N (Fig. 562), brass cylinder, each .....	.....	.....	100.00	145.00	190.00
Plate 3636 N (Fig. 562), all brass, each.....	.....	.....	150.00	230.00	290.00



Fig. 1465



3637 N

Fig. 1635



3638 N

"THRESHER" DOUBLE-ACTING FORCE PUMP, PLATE 3637 N

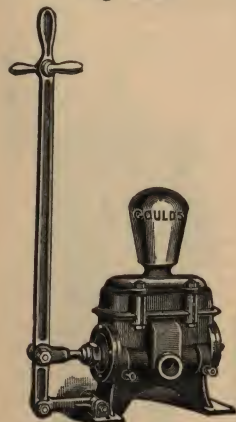
Lift and Force, 50 Feet.

This pump is made for filling thresher tanks, cold boilers and for pumping out excavations, etc. The valves and plunger are easily removable. The valves are all metal, with leather face. The suction piece and the "goose neck" discharge are much larger than the average thresher pump, giving a full 2-inch opening. The suction and discharge openings in the pump are both inside-threaded for 2-inch pipe.

Plate 3638 N, same as above, except with ratchet head.

- Fig. 1465—Pump only, with strainer, hose couplings and clamps; 5-inch cylinder, 5-inch stroke, .85-gallon capacity per revolution, 2-inch suction hose and 2-inch suction pipe, 1-inch discharge hose and 2-inch discharge pipe, each.....\$12.50
- Outfit A—Fig. 1465, with 15 feet 2-inch spiral wire suction hose, 12½ feet 1-inch 3-ply discharge hose, couplings, suction strainer and nozzle, all complete..... 45.00
- Outfit B—Fig. 1465, with 20 feet 2-inch spiral wire suction hose, 12½ feet 1-inch 3-ply discharge hose, couplings, suction strainer and nozzle, all complete..... 50.00
- Outfit C—Fig. 1465, with 25 feet 2-inch spiral wire suction hose, 12½ feet 1-inch 3-ply discharge hose, couplings, suction strainer and nozzle, all complete..... 55.00
- Outfit D—Fig. 1465, with 25 feet 2-inch spiral wire suction hose, 25 feet 1-inch 3-ply discharge hose, couplings, suction strainer and nozzle, all complete..... 60.00
- Fig. 1635—Pump only, each..... 15.50

Fig. 1334



3639 N

NEW ALERT DOUBLE-ACTING FORCE PUMP, PLATE 3639 N

Adapted for general service pumping in mills, factories and stores. Valves are grouped in box above the cylinder and are easily accessible. Are furnished with leather valves.

Plate 3640 N, same as above, except that it is provided with air valve so it will pump both water and air for pneumatic tank water supply systems.

Fig. 1604

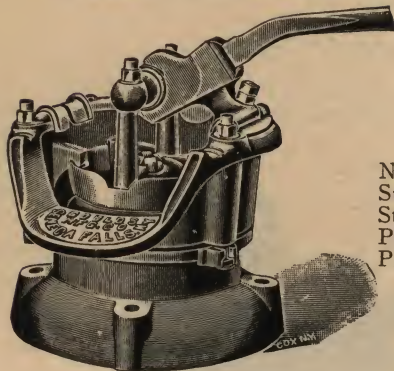


3640 N

Number	2	4	8
Diameter cylinder, inches.....	2½	3	4
Suction, inches	1¼	1¼	1½
Discharge, inches	1	1	1¼
Fig. 1334—Iron, each	\$16.00	\$18.00	\$24.00
Fig. 1334—Brass lined, each.....	18.50	21.00	28.00
Fig. 1604—Iron, each	20.00	22.50	.....
Fig. 1604—Brass lined, each.....	22.50	25.00	.....



Fig. 1222—Bottom suction



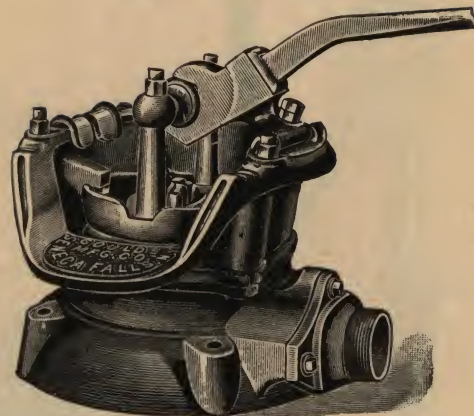
3641 N

**NEW DIAPHRAGM SUCTION PUMPS,
PLATE 3641 N AND PLATE 3642 N**

For Suction Lift of 25 Feet.

Number	2	3	4
Suction, inches	2½	3	4
Stroke, inches	2	3	4
Plate 3641 N (Fig. 1222), each..	\$20.60	\$26.85	\$45.60
Plate 3642 N (Fig. 1223), each..	23.75	30.60	50.00

Fig. 1223—Side suction



3642 N

**GOULDS POWER DIAPHRAGM PUMP,
PLATE 3643 N AND PLATE 3643½ N**

For pumping out excavations, cellars, trenches, quarries, or for similar services where a portable power pump is desired, Goulds power diaphragm pump makes an excellent outfit mounted with a small gasoline engine on either a frame or truck.

The pump is geared 5 to 1 and can be connected to any engine directly by gearing proportioned to the speed of the engine, or by belt.

When furnished for belt drive this pump is fitted with a single tight pulley 12 inches diameter by 3-inch face and is known as Fig. 1642, No. 3 power diaphragm pump.

When furnished for direct connection to engines it is fitted with a second reduction of gearing consisting of engine gear and engine pinion. This pump is known as Fig. 1649, No. 3 power diaphragm pump. Fig. 1649 is furnished with any one of several different ratios of engine gear and pinion, which will give a large overall reduction from the engine to the pump. This allows the pump to be direct-connected to practically any engine.

The base of the pump is square and is provided with extra large holes for bolting securely to the mounting.

The pump is fitted for side suction and has a rubber suction valve resting on an inclined seat, thus offering the least resistance to the passage of liquids.

A rubber diaphragm of the best quality rubber takes the place of a plunger. The discharge valve, which is of metal, seats on the diaphragm and is easily removable. The waterways are large and are designed to handle a large amount of liquid easily.

Fig. 1642



3643 N

Fig. 1649—Direct-connected to gasoline engine



3643½ N

Fig. 1642—No. 3 power diaphragm pump, fitted with 12-inch diameter by 3-inch face single tight pulley.....\$54.00

Stroke, 2¼ inches; suction pipe, 3 inches; displacement per revolution, .8 gallon; number of revolutions recommended per minute, 35 to 50.

Fig. 1649—No. 3 power diaphragm pump, furnished with gearing for direct connection to engine, giving following overall ratios:

Ratios of gearing furnished.....	10 to 1	6.1 to 1	7.3 to 1	8.3 to 1
Each.....	\$58.00	\$61.00	\$61.00	\$61.00
Ratios of gearing furnished.....	11.1 to 1	13.3 to 1	14.1 to 1	16.6 to 1
Each.....	\$63.00	\$63.00	\$67.00	\$67.00

Fig. 1043½

Fig. 1043



3644 N

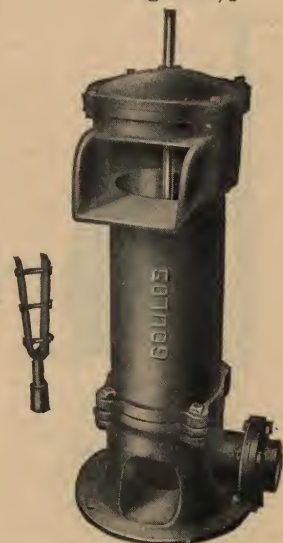
NEW DELUGE IRRIGATION PUMP, PLATE 3644 N

With Forked Rod for Windmill.

This pump is adapted especially for irrigation purposes, as a large volume of water is delivered with each stroke and the valves are constructed for handling muddy or gritty water. Cylinders are brass lined; plunger valve is metal, leather faced, and suction valve is leather, double hinged.

Plate 3645 N is same as above, but provided with base and side suction, with companion flanges cut for iron pipe.

Diameter cylinder, inches.....	6	8½	10	12
Suction pipe, inches.....	3	4	5	6
Stroke, inches	12	12	12	12
Capacity per stroke, gallons.....	1½	3	4	6
Plate 3644 N (Fig. 1043), brass lined, each..	\$43.75	\$60.00	\$103.75	\$140.00
Plate 3645 N (Fig. 1043½), brass lined, each..	47.50	66.25	112.50	150.00



3645 N

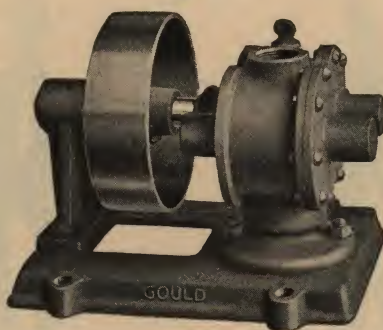


Fig. 1185½



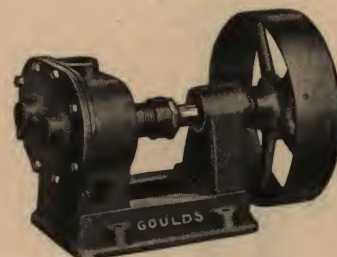
3646 N

Fig. 1568



3647 N

Fig. 1239



3648 N

POWER ROTARY FORCE PUMP, PLATE 3646 N

Lift and force 60 feet.

This pump is made with heavy cast iron bases fitted with tight and loose pulleys supported by babbitted box bearings.

Number	1	2	3	4	4-A	5	5-A	6
Suction, inches.....	1¼	1¼	1½	2	2	2	2	2½
Discharge hose, inches.....	1	1	1¼	1½	1½	2	2	2½
Tight and loose pulleys, inches.....	8x2½	8x2½	8x2½	12x3½	16x3½	12x3½	16x3½	24x4
Capacity per minute, gallons.....	20	25	28	50	50	55	55	65
Iron	\$19.75	\$22.00	\$ 23.25	\$ 44.50	\$ 50.30	\$ 47.80	\$ 53.85	\$ 80.00
Bronze case and cams.....	66.15	75.60	85.00	114.00	122.85	131.60	140.40	197.45
Bronze	81.00	87.75	101.25	146.25	160.85	175.50	190.00	255.95

POWER ROTARY FORCE PUMP, PLATE 3647 N

Lift and force 60 feet.

This pump is similar to Plate 3646 N, but has a shorter base and tight pulley only; both suction and discharge are for 1¼-inch pipe.
Capacity 20 gallons per minute..... \$17.50

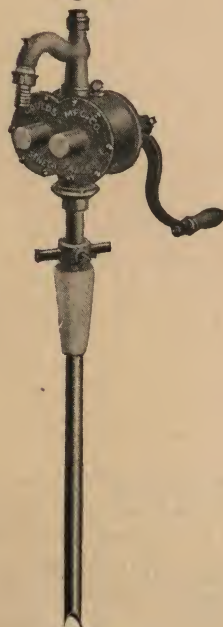
POWER ROTARY PUMP, PLATE 3648 N

Lift and force 60 and 100 feet.

This is a rotary oil pump mounted on a frame with a single tight pulley; bearings are babbitted, suction connection can be made on either side of pump. It has no valves.

Number	2
Capacity per minute, gallons.....	10
Suction and discharge, inches.....	1
Pulley, inches.....	10x2½
Iron	\$25.00
Bronze	74.25

Fig. 464



3649 N

HAND ROTARY PUMP, PLATE 3649 N

Lift and force 60 feet.

This is a special design for pumping from barrels. It has a top discharge and spout, crank handle and iron suction pipe fitted with a sleeve secured with thumbscrew. This sleeve will fit bunghole from 1¾ to 2¾ inches with No. 1 and No. 2 sizes, and 2¾ to 3½ inches with No. 3.

Number	1	2	3
Suction, inches.....	1	1	1¼
End of spout hose, inches.....	1	1	1¼
Capacity per minute, gallons.....	10	13	17
Iron	\$17.00	\$19.25	\$19.75
Bronze case and cams.....	52.65	59.40	66.15
Bronze	66.15	72.90	82.35

Fig. 297



3650 N

HAND ROTARY FORCE PUMP, PLATE 3650 N

Lift and force 60 feet.

This pump has an elevated base, spout and top discharge. It is furnished with a fly-wheel for hand operation only. Top discharge can be used for connecting to an overhead tank.

Number	1	2	3
Suction pipe, inches.....	1¼	1¼	1½
Capacity per minute, gallons.....	10	13	17
Diameter wheel, inches.....	14½	14½	14½
Iron	\$17.25	\$19.25	\$19.75
Bronze case and cams.....	55.35	62.10	68.85
Bronze	68.85	75.60	85.00



Fig. 846



3651 N

Fig. 850



3652 N

Fig. 762



3653 N

Fig. 780



3654 N

STAR LIFT PUMP STANDARDS, PLATE 3651 N AND PLATE 3652 N
For Deep Wells.

Number	3	4	5
Suction, inches	1 1/4	1 1/4	1 1/4
Stroke, inches	6	6	6
Steel well rod, inches.....	3/8	3/8	3/8
Plate 3651 N (Fig. 846), each.....	\$5.00	\$5.50	\$6.25
Plate 3652 N (Fig. 850), each.....	5.50	6.25	7.00

STAR WINDMILL LIFT PUMP STANDARDS, PLATE 3653 N AND PLATE 3654 N
For Deep Wells.

Number	3	4	5
Fig. 762— 6-inch stroke, 1 1/4-inch suction pipe, 3/8-inch steel well rod.....	\$5.50	\$6.25	\$6.75
Fig. 762—10-inch stroke, 2 -inch suction pipe, 7/16-inch steel well rod.....	6.75	7.50	8.00
Number	4	5	
Fig. 780—6, 8 or 10-inch stroke, 2-inch suction pipe, 7/16-inch steel well rod.....	\$7.75	\$8.25	

Fig. 236



3655 N

DEEP-WELL LIFT PUMP STANDARD, PLATE 3655 N

This is a heavy lift pump standard suitable for operating cylinders in wells 40 to 150 feet deep. It is built to stand hard use. Flange is regularly tapped for 1 1/4-inch pipe, but can be tapped for 1 1/2 or 2-inch pipe if desired.

Stroke 6 inches, well rod 3/8 inch, each.....	\$13.50
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STAR ANTI-FREEZING WELL LIFT PUMPS, PLATE 3656 N TO PLATE 3659 N

Plate	3656 N	3656 N	3657 N	3658 N	3658 N	3659 N	3659 N
Figure	848½	848½	1625	553	553	554	554
Number	3	4	4	3	4	4	6
Cylinder, inches	2¾x10	3x10	3x10	2¾x10	3x10	3x10	3½x10
Stroke, inches	6	6	5	6	6	6	6
Capacity per stroke, gallons	.15	.18	.15	.15	.18	.18	.25
Suction, inches	1¼	1¼	1¼	1¼	1¼	1¼	1½
Iron cylinder, each	\$ 7.85	\$ 7.85	\$ 6.85	\$ 9.00	\$ 9.00	\$ 9.50	\$10.75
Brass-lined cylinder, each	9.85	9.85	8.85	11.00	11.00	11.50	13.25



DEEP-WELL FORCE PUMP STANDARD, PLATE 3660 N

Lift and Force, 40 to 150 feet.

This pump is a strong, powerful deep-well standard, with long balanced lever. Stock is made in two pieces, with intermediate flange bolted between. Flange is regularly furnished tapped for 1¼-inch pipe, but can be tapped for 1½ or 2-inch.

Plate 3661 N is same as above, except it has cock spout.

Plate 3660 N (Fig. 237)—6-inch stroke, 1¼-inch suction	\$17.50
Plate 3661 N (Fig. 887)—6-inch stroke, 1¼-inch suction	21.00



Fig. 1018—Light



3662 N

Fig. 550—Medium



3663 N

Fig. 551—Heavy



3664 N

Fig. 552—Large Spout



3665 N

Fig. 1261—Large Spout

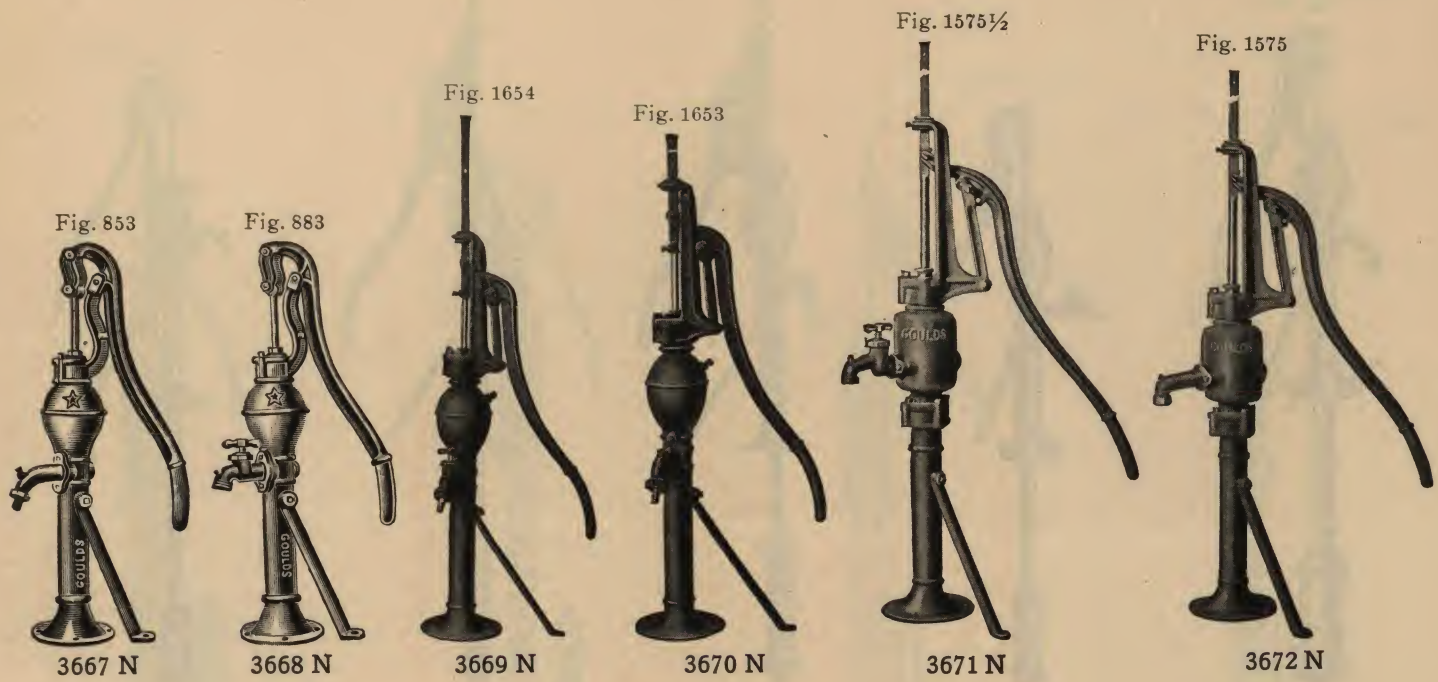


3666 N

STAR ANTI-FREEZING WELL LIFT PUMPS, PLATE 3662 N TO PLATE 3666 N

Our revolving open-top anti-freezing well lift pumps, for outdoor cisterns and shallow wells—dug, drilled or driven—where water is not more than 25 feet below ground line. These pumps are similar in design, differing only in size and weight of standard. As listed, pumps are adapted for wells about 28 feet deep. By lowering cylinder to within 15 feet of the water, pumps can be used in wells 40 to 50 feet in depth. Pumps are tapped and receive connecting pipe near spout, not at base. Pump base to bottom of cylinder, 4 feet. Metal lower valves, to order at extra price.

Number	4	3	4	4	6	6	8	8	10
Figure	1018	550	550	551	551	552	552	1261	1261
Stroke, inches	6	6	6	6	6	6	6	6	6
Cylinder, inches	3x10	2¾x10	3x10	3x10	3½x10	3½x10	4x10	4x16	4½x16
Capacity per stroke, gallons	.18	.15	.18	.18	.25	.25	.33	.54	.69
Suction, inches	1¼	1¼	1¼	1¼	1½	1½	2	2	2
Iron cylinder, each	\$6.85	\$ 8.00	\$ 8.10	\$ 8.60	\$ 9.60	\$10.60	\$12.00	\$16.25	\$18.00
Brass-lined cylinder, each	8.85	10.00	10.00	10.50	12.10	13.10	14.50	18.75	21.75



STAR FORCE PUMP STANDARDS, PLATE 3667 N

This pump is built with revolving tight top fitted with brass packing gland and air chamber tube.
 Plate 3668 N, same as above, except with cock spout.

Number	1
Stroke, inches	6
Suction, inches	1 1/4
Plate 3667 N (Fig. 853), each	\$ 8.25
Plate 3668 N (Fig. 883), each	10.00

STAR FORCE PUMP STANDARDS, PLATE 3669 N

Lift and Force, 25 to 190 Feet.

This pump has a one-piece forged steel windmill rod and crosshead; is adapted for operation by hand or windmill.
 Plate 3670 N, same as above, except with cock spout.

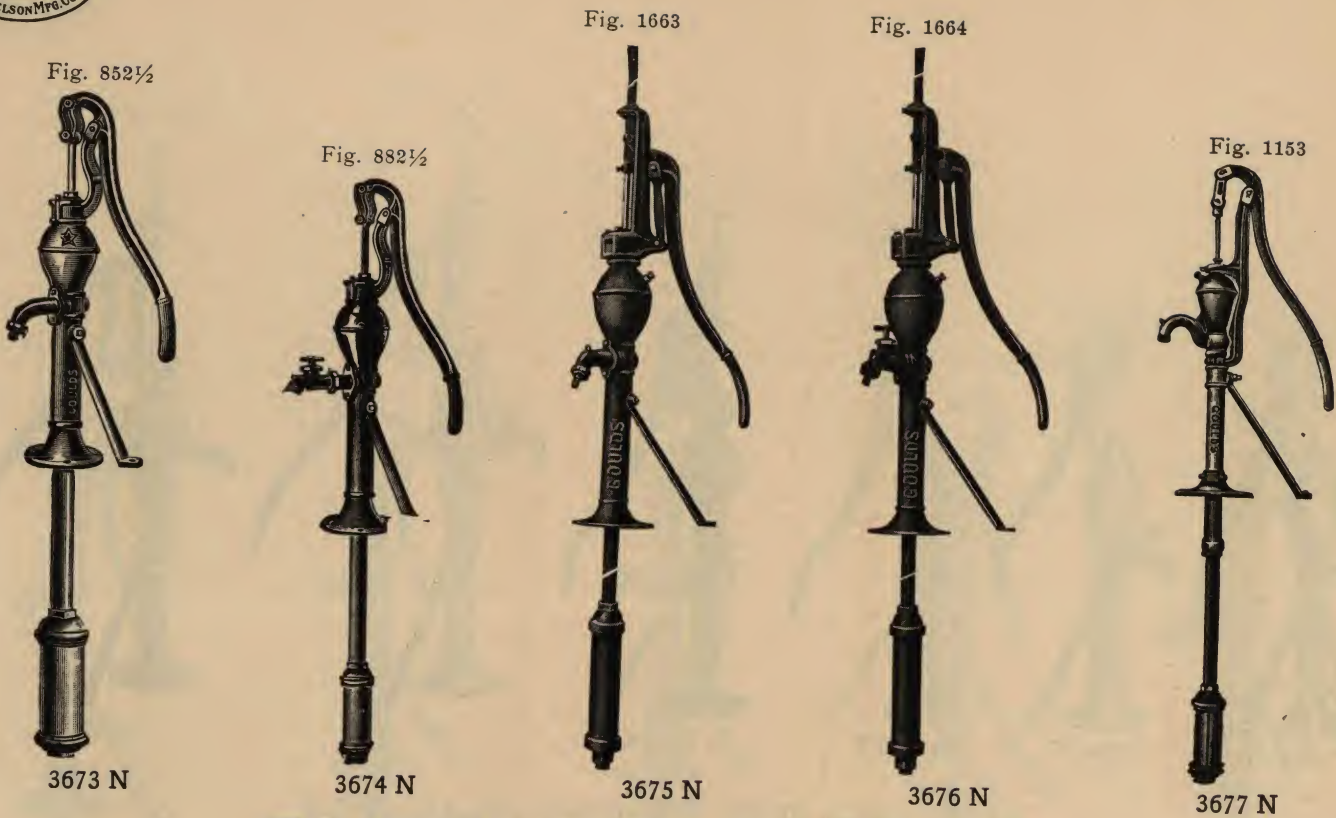
Plate	Figure	Stroke	Suction Pipe, inches	Discharges	Steel Well Rod, inches	Each
3669 N	1654	{ 6-in. hand } { 10-in. mill }	2	1 1/4-in. pipe and 3/4-in. hose	7/16	\$ 8.75
3669 N	1654	Adj. 6, 8, 10 in.	2	1 1/4-in. pipe and 3/4-in. hose	7/16	10.65
3670 N	1653	{ 6-in. hand } { 10-in. mill }	2	1 1/4-in. pipe and 3/4-in. hose	7/16	8.75
3670 N	1653	Adj. 6, 8, 10 in.	2	1 1/4-in. pipe and 3/4-in. hose	7/16	10.65

FORCE PUMP STANDARDS, PLATE 3671 N

This standard is divided into two parts, with an intermediate flange between; flange tapped for 2-inch pipe, but can be bushed to 1 1/4 or 1 1/2-inch; has large air chamber, adjustable stroke; stock tapped for pipe back of spout.

Plate 3672 N, same as above, except with plain spout.

Stroke, adjustable, inches	6, 8, 10
Suction, inches	2
Plate 3671 N (Fig. 1575 1/2), each	\$14.65
Plate 3672 N (Fig. 1575), each	12.75



STAR ANTI-FREEZING FORCE PUMPS, PLATE 3673 N

This pump is especially adapted for garden, yard and stable use, being fitted for hose discharge. All have an outlet at back of spout for attaching spout; pump base to bottom of cylinder 4 feet.

- Plate 3674 N, same as above, except with cock spout.
- Plate 3675 N, same as Plate 3673 N, except with windmill top.
- Plate 3676 N, same as Plate 3675 N, except with cock spout.

Number	3	4	6	3	4
Figure	852½	852½	852½	882½	882½
Cylinder, inches	2¾x10	3x10	3½x10	2¾x10	3x10
Stroke, inches	6	6	6	6	6
Capacity per stroke, gallons.....	.15	.18	.25	.15	.18
Suction pipe, inches.....	1¼	1¼	1½	1¼	1¼
Discharge pipe, inches	1¼	1¼	1¼	1¼	1¼
Discharge hose, inches	¾	¾	¾	¾	¾
*Lift and force, feet.....	70	60	50	70	60
Iron cylinder, each.....	\$11.85	\$11.85	\$13.10	\$13.75	\$13.75
Brass-lined cylinder, each.....	13.85	13.85	15.60	15.75	15.75
Number	6	4	6	4	6
Figure	882½	1663	1663	1664	1664
Cylinder, inches	3½x10	3x14	3½x14	3x14	3½x14
Stroke, inches	6	6	Hand	10	Mill
Capacity per stroke, gallons.....	.25	.30	.41	.30	.41
Suction pipe, inches.....	1½	1¼	1½	1¼	1½
Discharge pipe, inches	1¼	1¼	1¼	1¼	1¼
Discharge hose, inches	¾	¾	¾	¾	¾
*Lift and force, feet.....	50	60	50	60	50
Iron cylinder, each.....	\$15.00	\$14.35	\$16.00	\$16.25	\$17.75
Brass-lined cylinder, each.....	17.50	15.80	18.20	17.70	19.95

*Depth of wells to which pumps may be adapted by placing lower cylinders within 15 or 20 feet of water.

ANTI-FREEZING FORCE PUMP, PLATE 3677 N

For Wells 30 Feet Deep.

The stock of this pump is formed of iron pipe, with base and brace secured with set screws.

Number	4
Diameter cylinder, inches.....	3x10
Suction, inches	1¼
Stroke, inches	5
Iron cylinder, each.....	\$ 9.00
Brass-lined cylinder, each.....	10.50



Fig. 1362

Fig. 1363—With 3-way valve

Fig. 1359

Fig. 1360—With 3-way valve



3678 N



3679 N



3680 N



3681 N

EMPIRE DOUBLE-ACTING FORCE PUMPS, PLATE 3678 N TO PLATE 3681 N

The upper cylinder of our Empire pumps is fitted with differential plunger, contributing to an even and uniform discharge of water.

Each pump has cylinder brass lined and fitted with Universal bushing so pump can be used for either shallow or deep wells.

Unless otherwise ordered, we ship all Empire pumps put up for shallow wells; that is, with lower working cylinder screwed into upper cylinder and the Universal bushing for bottom of upper cylinder and top attachment for lower cylinder tied on. Where wanted for deep wells, unscrew lower cylinder from upper cylinder and attach Universal bushing to bottom of upper cylinder and top cap to lower cylinder, and connect with pipe and rod required for any depth of well.

Number	2	4	2	4	2	4	2	4
Figure	1362	1362	1363	1363	1359	1359	1360	1360
Lower cylinder, inches.....	2½x12	3x12	2½x12	3x12	2½x12	3x12	2½x12	3x12
Stroke, inches	5	5	5	5	6	6	6	6
Capacity per stroke, gallons.....	.11	.15	.11	.15	.13	.18	.13	.18
Suction pipe, inches.....	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼
Well rod, inches	¾	¾	¾	¾	...	...	...	...
*Lift and force, feet.....	100	75	100	75	100	75	100	75
Brass-lined cylinder, each.....	\$18.00	\$18.00	\$21.25	\$21.25	\$18.75	\$18.75	\$22.50	\$22.50
Brass-body cylinder, each.....	19.25	19.25	22.50	22.50	20.00	20.00	23.75	23.75

*Depth of wells to which pumps may be adapted by lowering cylinders to within 15 or 20 feet of water, or total lift and force from supply to point of delivery.

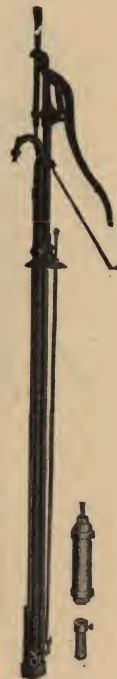


Fig. 1618



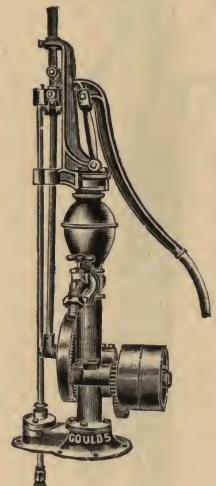
3682 N

Fig. 1619



3683 N

Fig. 1427



3684 N

"KANT-FREEZE" DOUBLE-ACTING FORCE PUMP, PLATE 3682 N

Lift and Force, 70 to 100 Feet.

This pump is made especially for service in cold climates. As listed it is 7 feet long from the base to bottom of working head, and the pump will therefore drain below the frost line in the coldest climate. Standard is made of wrought iron pipe, 1¼-inch for the air chamber and 1-inch for discharge. Set length will go in a 5½-inch well casing.

Plate 3683 N, same as above, but equipped with a three-way distributing valve at the bottom of set length. This pump will go in a 7¼-inch well casing.

Figure	Number	Lower Cylinder, in.	Stroke, Adjustable, in.	Capacity per Stroke, Gallons			Suction Pipe, in.	Discharge	*Lift and Force, ft.	Each
				6-in.	8-in.	10-in.				
1618	2	2½x16	6, 8, 10	.12	.17	.21	2	¾-in. hose, upper	100	\$23.00
1618	4	3 x16	6, 8, 10	.18	.24	.31	2	¾-in. hose, upper	70	23.50
1619	2	2½x16	6, 8, 10	.12	.17	.21	2	¾-in. hose, upper, and 1-in. pipe, lower	100	26.50
1619	4	3 x16	6, 8, 10	.18	.24	.31	2	¾-in. hose, upper, and 1-in. pipe, lower	70	27.00

*Depth of well to which pumps may be adapted by placing cylinder within 15 or 20 feet of water, or total lift and force from supply to point of delivery.

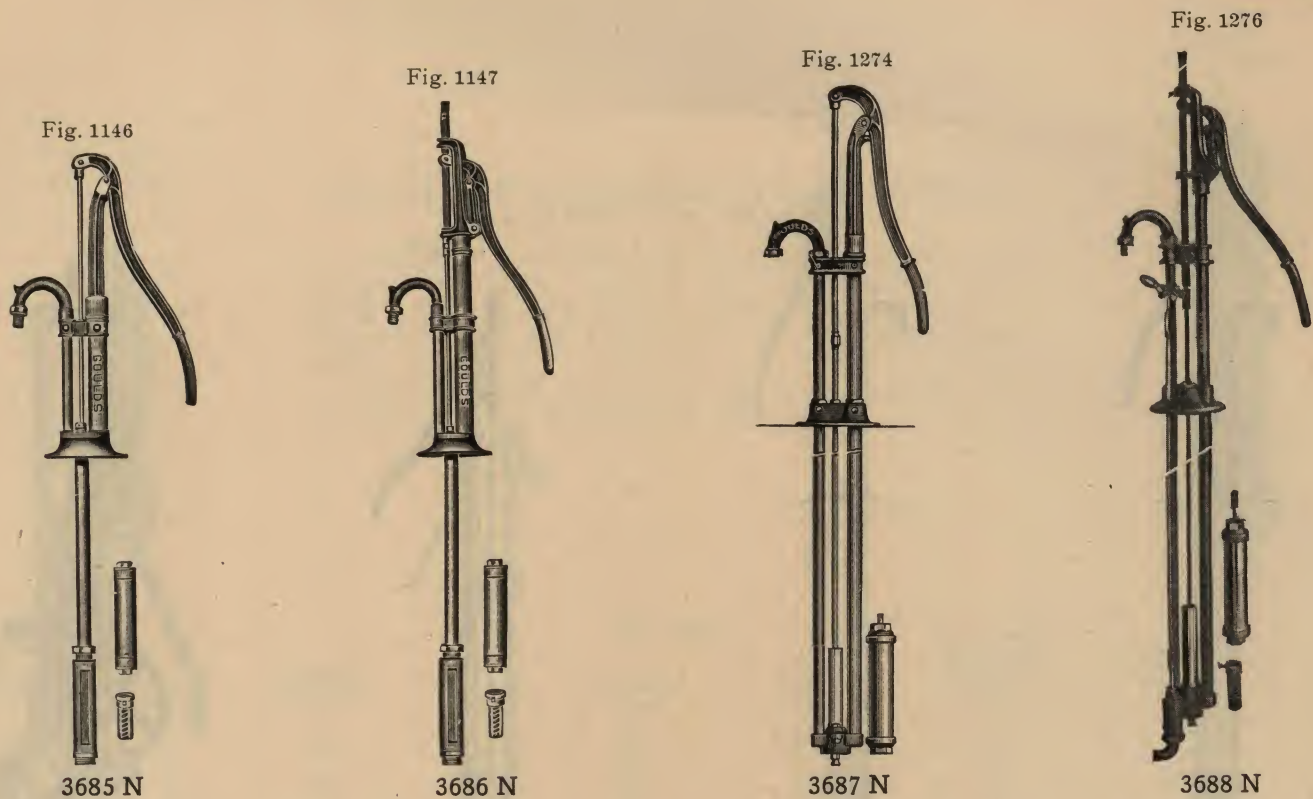
NEW COMBINATION PUMPING HEAD, PLATE 3684 N

For Wells 50 to 125 Feet Deep.

A very strong, compact pumping head for operating deep well cylinders by either hand, windmill or belt-drive from an engine or electric motor. The stroke is adjustable, 6, 8 or 10 inches. The cock spout is fitted for 1-inch hose. There is also an opening back of the spout for connecting iron pipe. The suction is regularly tapped for 2½-inch pipe, but can be tapped for 3-inch pipe or bushed for 1¼, 1½ or 2-inch, to order. The bearings are of babbitt metal and provided with grease boxes.

Stroke	Suction	Discharge	Geared	Tight and Loose Pulley	*Lift and Force	Each
Adjustable, 6, 8, 10 inches	1¼ to 3 inches, as ordered	Back of Spout for 2-in. Iron Pipe Spout, 1-in. Hose	8½ to 1	8x2½	{ 2½-in. Cyl. 125 ft. 3 -in. Cyl. 100 ft. 3½-in. Cyl. 70 ft. 4 -in. Cyl. 50 ft. }	\$43.75

*Total lift and force from supply to point of delivery. Cylinder within 25 feet or less of water.



“ADVANCE” DOUBLE-ACTING FORCE PUMPS, PLATE 3685 N

Lift and Force 75 to 100 feet.

The “Advance” double-acting force pumps are designed to go in wells of small diameter. The differential cylinder is made of seamless drawn brass. The lower cylinder is brass lined or brass body, as ordered. The pump is fitted with “Universal” bronze valve and seat, as shown by Plate 3708 N.

Plate 3686 N is same as above, except it is fitted with windmill top with 10-inch mill stroke and 6-inch hand.

Number	2	4	2	4
Figure	1146	1146	1147	1147
Lower cylinder, inches.....	2½x12	3x12	2½x16	3x16
Stroke, inches	5	5	6-in. hand, 10-in. mill	6-in. hand, 10-in. mill
Capacity per stroke, gallons.....	.11	.15	.21	.31
Suction pipe, inches.....	1¼	1¼	1¼	1¼
Discharge hose, inches.....	¾	¾	¾	¾
*Lift and force, feet.....	100	75	100	75
Brass-lined cylinder, each.....	\$18.75	\$18.75	\$20.00	\$20.00
Brass-body cylinder, each.....	20.00	20.00	21.25	21.25

*Depth of wells to which pumps may be adapted by placing lower cylinder within 15 or 20 feet of water, or total lift and force from supply to point of delivery.

“SENECA” DOUBLE-ACTING FORCE PUMPS, PLATE 3687 N

Lift and Force 75 Feet.

In these pumps the standard is formed of iron pipe; the pipe to which the bearer top is fitted acting as an air chamber. The base is adjustable, and the spout can be turned at any angle.

Fig. 1275 (not illustrated) the same as Fig. 1274, but has windmill top fitted with removable rod guide bushing, with 10-inch mill stroke and 6-inch hand stroke.

Plate 3688 (Fig. 1276)—This pump is constructed with windmill top fitted with removable rod guide bushing and three-way distributing valve, with swivel elbow at the bottom of set length. The distributing valve is operated by small lever on the side of the discharge pipe near the spout.

Number	4	4	4
Figure	1274	1275	1276
Lower cylinder, inches.....	3x10½	3x14	3x14
Stroke, inches	5	6-in. hand, 10-in. mill	6-in. hand, 10-in. mill
Capacity per stroke, gallons.....	.15	.31	.31
Suction pipe, inches.....	1¼	1¼	1¼
Discharge hose, inches.....	¾	¾	¾
*Lift and force, feet.....	75	75	75
Brass-body cylinder, each.....	\$18.25	20.00	\$25.00

*Depth of wells to which pumps may be adapted by placing lower cylinder within 15 or 20 feet of water, or total lift and force from supply to point of delivery.



Fig. 1278



3689 N

Fig. 1277

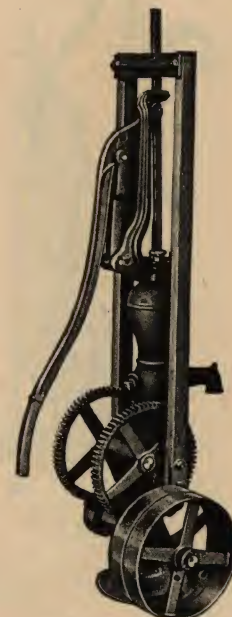


3690 N

Fig. 1482



3691 N



3691 AN

SENECA WINDMILL DISTRIBUTING PUMP HEAD, PLATE 3689 N

This three-way distributing pump head is made with iron pipe extending through the base and forming the standard. Base is adjustable. Working head has brass packing gland. Plate 3690 N is same as above, except it is provided with a small packing cylinder, instead of a stuffing box.

Stroke	10-inch mill, 6-inch hand
Suction, inches	2
Lower discharge pipe, inches.....	1 1/4
Plate 3689 N (Fig. 1278), each.....	\$17.50
Plate 3690 N (Fig. 1277), each.....	17.50

DISTRIBUTING FORCE PUMP HEAD, PLATE 3691 N

Lift and Force, 25 to 220 Feet.

This force pump head is built for operation by hand, windmill or pump jack. The set length is made with 2-inch pipe air chamber and 1 1/4-inch pipe discharge, brass packing gland and bolted packing box. Distributing valve is located at lower end of working head, where it cannot freeze. Plate 3692 N shows above pump head connected to jack.

Stroke	6 inches	Adj. 6, 8, 10 inches
Suction pipe, inches.....	1 1/4	2
Lower discharge pipe, inches.....	1 1/4	1 1/4
Upper discharge hose, inches.....	3/4	3/4
Steel well rod, inches.....	3/8	7/16
Plate 3691 N (Fig. 1482), each.....	\$20.50	\$22.00

STOVER PUMP JACK, PLATE 3691 AN

The No. 00 Stover Double Geared Pump Jack attaches to the pump standard and has no connection with the platform. Can be attached to any pump standard.

The pulleys and small pinions can be taken off, the shaft reversed and the pinions and pulleys re-assembled on the other side. Drive from either side.

Back geared 4 to 1. Strokes 5, 7 1/2 and 10 inches. Pulleys 21x 2 inches. Weight 80 pounds.

Plate 3691 AN, No. 00 Pump Jack, each.....	\$7.50
--	--------



Fig. 1230
"BB" plunger



3694 N

Fig. 1230
"AA" plunger



3693 N

**GOULDS PUMP CYLINDERS OR WORKING BARRELS,
PLATE 3693 N AND PLATE 3694 N**

Fig. 1230—With outside top and bottom attachments and leather suction valve. Cylinders 10½ inches long have "AA" plunger with one cupped leather packing. Cylinders 12 to 24 inches long have "BB" plunger with two cupped leather packings.

Made in diameters ranging from 2 to 6 inches, and with 6, 8, 10, 12, 14, 16, 18 and 20-inch strokes.

Fig. 1230

Diameter and Length, Inches	Stroke, Inches	Capacity per Stroke, Gallons	Size Pipe, Inches	Well Rod, Inches	Iron, Each	Brass-Lined, Brass Cage and Valve Plunger, Each	Brass Body, All Brass Plunger, Each	All Brass, Each
2 x10½	6	.08	1¼	¾	\$ 1.85	\$ 3.75	\$ 4.50	\$ 6.50
2¼x10½	6	.10	1¼	¾	2.00	4.35	4.60	6.50
2½x10½	6	.13	1¼	¾	2.20	4.35	4.80	7.25
2¾x10½	6	.15	1¼	¾	2.35	4.70	5.00	7.50
3 x10½	6	.18	1¼	¾	2.50	5.00	5.50	8.00
3½x10½	6	.25	1½	7/16	3.50	5.65	6.45	10.00
4 x10½	6	.32	2	7/16	4.50	7.50	8.70	12.75
2 x12	8	.11	1¼	¾	2.75	4.50	5.20	6.80
2¼x12	8	.14	1¼	¾	2.90	4.60	5.30	6.80
2½x12	8	.17	1¼	¾	3.00	4.80	5.50	7.50
2¾x12	8	.20	1¼	¾	3.25	5.00	5.90	7.80
3 x12	8	.24	1¼	¾	3.50	5.30	6.20	8.25
3½x12	8	.33	1½	7/16	4.50	6.30	7.70	10.50
4 x12	8	.44	2	7/16	5.75	7.95	10.00	13.25
2 x14	10	.14	1¼	¾	3.00	4.80	5.50	7.75
2¼x14	10	.17	1¼	¾	3.10	5.00	5.75	8.00
2½x14	10	.21	1¼	¾	3.25	5.20	5.90	8.75
2¾x14	10	.25	1¼	¾	3.50	5.50	6.30	9.25
3 x14	10	.30	1¼	¾	3.75	5.70	6.60	9.75
3½x14	10	.41	1½	7/16	5.00	6.85	8.25	12.50
4 x14	10	.54	2	7/16	6.50	8.85	10.65	12.75
4½x14	8	.55	2	½	8.75	13.40	15.65	21.25
5 x14	8	.68	2½	½	11.25	18.45	21.25	29.75
6 x14	8	.98	3	5/8	16.75	28.00	31.30	41.25
2 x16	12	.16	1¼	¾	3.00	5.00	5.90	8.25
2¼x16	12	.21	1¼	¾	3.25	5.50	6.30	8.75
2½x16	12	.25	1¼	¾	3.50	5.70	6.60	9.50
2¾x16	12	.31	1¼	¾	3.75	6.10	6.85	9.75
3 x16	12	.37	1¼	¾	4.00	6.30	7.15	10.25
3½x16	12	.50	1½	7/16	5.60	7.55	8.95	13.25
4 x16	12	.65	2	7/16	7.25	9.80	11.50	16.50
4½x16	10	.69	2	½	9.25	14.00	17.10	22.80
5 x16	10	.85	2½	½	12.50	19.60	23.50	31.50
6 x16	10	1.22	3	5/8	18.75	30.75	34.75	44.25
2 x18	14	.19	1¼	¾	.....	.....	6.20	8.40
2¼x18	14	.24	1¼	¾	.....	5.90	6.75	9.00
2½x18	14	.30	1¼	¾	3.75	.....	7.25	10.00
2¾x18	14	.36	1¼	¾	4.00	6.60	7.45	10.50
3 x18	14	.43	1¼	¾	4.25	6.85	7.75	10.80
3½x18	14	.58	1½	7/16	6.25	8.25	9.65	13.80
4 x18	14	.76	2	7/16	8.00	10.80	12.50	17.50
4½x18	12	.83	2	½	11.25	16.80	19.60	25.50
5 x18	12	1.02	2½	½	15.00	22.40	25.10	34.50
6 x18	12	1.47	3	5/8	21.25	33.60	37.50	47.25
4 x20	16	.87	2	7/16	8.50	11.80	13.45	18.75
5 x20	14	1.19	2½	½	17.00	22.50	29.25	37.50
6 x20	14	1.71	3	5/8	25.00	32.50	40.25	50.00
5 x22	16	1.36	2½	½	19.00	25.00	32.00	37.50
6 x22	16	1.96	3	5/8	27.50	.....	43.25	53.00
4 x24	20	1.08	2	7/16	.....	12.25	15.40	20.75
5 x24	18	1.53	2½	½	21.00	.....	35.00	43.25
6 x24	18	2.20	3	5/8	30.00	37.50	46.00	56.00



Fig. 1231
"AA" plunger



3695 N

**GOULDS PUMP CYLINDERS OR WORKING BARRELS,
PLATE 3695 N AND PLATE 3696 N**

Fig. 1231—With inside top and bottom attachments and leather suction valve. Cylinders 10½ inches long have "AA" plungers with one cupped leather packing. Cylinders 12 to 24 inches long have "BB" plungers with two cupped leather packings.

Made in diameters ranging from 2½ to 6 inches and with 6, 8, 10, 12, 14, 16 and 18-inch strokes.

Fig. 1231
"BB" plunger



3696 N

Fig. 1231

Diameter and Length, Inches	Stroke, Inches	Capacity per Stroke, Gallons	Size Pipe, Inches	Well Rod, Inches	Iron, Each	Brass-Lined, Brass Cage and Valve Plunger, Each	Brass Body, All Brass Plunger, Each	All Brass, Each
2½ x 10½	6	.13	1¼	¾	\$ 2.25	\$ 4.50	\$ 4.80	\$ 7.20
3 x 10½	6	.18	1¼	¾	2.50	5.00	5.50	7.95
3½ x 10½	6	.25	1½	7/16	3.50	5.90	6.45	9.85
4 x 10½	6	.32	2	7/16	4.50	7.30	8.70	12.65
2½ x 12	6	.13	1¼	¾	3.00	4.80	5.50	7.50
3 x 12	6	.18	1¼	¾	3.50	5.30	6.20	8.25
3½ x 12	6	.25	1½	7/16	4.50	6.30	7.70	10.30
4 x 12	6	.32	2	7/16	5.75	7.95	10.00	13.25
2½ x 14	8	.17	1¼	¾	3.25	5.20	5.90	8.70
2¾ x 14	8	.20	1¼	¾	3.50	5.50	6.30	9.10
3 x 14	8	.24	1¼	¾	3.75	5.70	6.60	9.55
3½ x 14	8	.33	1½	7/16	5.00	6.85	8.25	12.35
4 x 14	8	.44	2	7/16	6.50	8.85	10.65	15.60
4½ x 14	6	.41	2	½	.....	.....	15.65	21.15
5 x 14	6	.51	2½	½	11.25	.....	21.25	29.50
6 x 14	6	.73	3	5/8	.....	.....	31.30	41.20
2½ x 16	10	.21	1¼	¾	3.50	5.70	6.60	9.45
3 x 16	10	.30	1¼	¾	4.00	6.30	7.15	10.15
3½ x 16	10	.41	1½	7/16	5.65	7.55	8.95	13.10
4 x 16	10	.54	2	7/16	7.25	9.80	11.50	16.50
4½ x 16	8	.55	2	½	9.25	14.00	17.10	22.80
5 x 16	8	.68	2½	½	12.50	19.55	23.50	31.50
6 x 16	8	.98	3	5/8	18.75	30.75	34.65	44.10
2½ x 18	12	.25	1¼	¾	3.75	6.30	7.15	10.00
2¾ x 18	12	.30	1¼	¾	4.00	6.60	7.40	10.30
3 x 18	12	.37	1¼	¾	4.25	6.85	7.70	11.00
3½ x 18	12	.50	1½	7/16	6.25	8.25	9.65	13.85
4 x 18	12	.65	2	7/16	8.00	10.80	12.45	17.50
4½ x 18	10	.69	2	½	.....	16.80	19.55	25.45
5 x 18	10	.85	2½	½	15.00	22.40	26.25	34.40
6 x 18	10	1.22	3	5/8	21.25	33.55	37.45	47.00
5 x 22	14	1.19	2½	½	.....	.....	31.85	40.50
6 x 22	14	1.71	3	5/8	.....	.....	43.00	53.00
4 x 24	18	.98	2	7/16	.....	.....	15.40	20.60
5 x 24	16	1.36	2½	½	.....	.....	34.65	43.25
6 x 24	16	1.96	3	5/8	.....	.....	45.80	56.00



**GOULDS PUMP CYLINDERS OR WORKING BARRELS,
PLATE 3697 N AND PLATE 3698 N**

Fig. 1235—With outside top and bottom attachments and "Universal" bronze valve and seat. Cylinders 10½ inches long have "AA" plunger with one cupped leather packing. Cylinders 12 to 24 inches long have "BB" plungers with two cupped leather packings.

Made in diameters ranging from 2½ to 6 inches and with 6, 8, 10, 12, 14, 16 and 18-inch strokes.

Fig. 1235

Diameter and Length, Inches	Stroke, Inches	Capacity per Stroke, Gallons	Size Pipe, Inches	Well Rod, Inches	Fig. 1235		
					Iron	Brass-Lined, Brass Cage and Valve Plunger	All Brass
2½ x 10½	6	.13	1¼	¾	\$ 3.10	\$ 5.25	\$ 8.15
3 x 10½	6	.18	1¼	¾	3.40	5.90	8.90
3½ x 10½	6	.25	1½	7/16	4.50	6.65	11.00
4 x 10½	6	.32	2	7/16	6.00	9.00	14.25
2½ x 12	6	.13	1¼	¾	3.90	5.70	8.40
3 x 12	6	.18	1¼	¾	4.40	6.20	9.15
3½ x 12	6	.25	1½	7/16	5.50	7.30	11.50
4 x 12	6	.32	2	7/16	7.25	9.45	14.75
2½ x 14	8	.17	1¼	¾	4.15	6.10	9.65
2¾ x 14	8	.20	1¼	¾	4.40	6.40	10.15
3 x 14	8	.24	1½	¾	4.65	6.60	10.65
3½ x 14	8	.33	1½	7/16	6.00	7.85	13.50
4 x 14	8	.44	2	7/16	8.00	10.35	14.25
2½ x 16	10	.21	1¼	¾	4.40	6.60	10.40
3 x 16	10	.30	1½	¾	4.90	7.20	11.15
3½ x 16	10	.41	1½	7/16	6.60	8.55	14.25
4 x 16	10	.54	2	7/16	8.75	11.30	18.00
2½ x 18	12	.25	1¼	¾	4.65	.....	8.25
3 x 18	12	.37	1½	¾	5.15	7.75	8.65
4 x 18	12	.65	2	7/16	9.50	12.30	14.00
5 x 18	10	.85	2½	½	17.50	25.00	27.60
6 x 18	10	1.22	3	5/8	26.85	39.25	43.10
3 x 20	14	.43	1¼	¾	.....	8.30	9.20
4 x 20	14	.76	2	7/16	10.00	13.25	15.00
5 x 20	12	1.02	2½	½	19.50	25.00	31.75
6 x 20	12	1.47	3	5/8	30.60	38.25	46.00
4 x 22	16	.87	2	7/16	.....	.....	16.00
5 x 22	14	1.19	2½	½	21.50	27.50	34.50
4 x 24	18	.98	2	7/16	.....	13.75	16.90
5 x 24	16	1.36	2½	½	23.50	.....	37.50
6 x 24	16	1.96	3	5/8	35.60	43.25	51.60

Fig. 1235
"AA" Plunger



3697 N

Fig. 1235
"BB" Plunger



3698 N

**GOULDS PUMP CYLINDERS OR WORKING BARRELS,
PLATE 3699 N AND PLATE 3700 N**

Fig. 1236—With inside top and bottom attachments and "Universal" bronze valve and seat. Cylinders have "BB" plungers with two cupped leather packings.

Made in diameters ranging from 2½ to 6 inches and with 6, 8, 10, 12, 14 and 16-inch strokes.

Fig. 1236

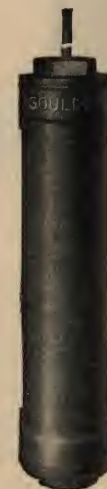
Diameter and Length, Inches	Stroke, Inches	Capacity per Stroke, Gallons	Size Pipe, Inches	Well Rod, Inches	Fig. 1236		
					Iron	Brass-Lined, Brass Cage and Valve Plunger	All Brass
2½ x 12	6	.13	1¼	¾	\$ 3.90	\$ 5.70	\$ 8.40
3 x 12	6	.18	1¼	¾	4.40	6.20	9.15
3½ x 12	6	.25	1½	7/16	5.50	7.30	11.30
4 x 12	6	.32	2	7/16	7.25	9.50	14.75
2½ x 14	6	.12	1¼	¾	4.15	6.10	9.60
2¾ x 14	6	.15	1¼	¾	4.40	6.40	10.00
3 x 14	6	.18	1½	¾	4.65	6.65	10.45
3½ x 14	6	.25	1½	7/16	6.00	7.85	13.35
4 x 14	6	.32	2	7/16	8.00	10.35	17.10
2½ x 16	8	.17	1¼	¾	4.40	6.60	10.35
3 x 16	8	.24	1½	¾	4.90	7.20	11.10
3½ x 16	8	.33	1½	7/16	6.65	8.55	14.10
4 x 16	8	.44	2	7/16	8.75	11.30	18.00
2½ x 18	10	.21	1¼	¾	4.65	7.20	8.10
3 x 18	10	.30	1½	¾	5.15	7.75	8.60
4 x 18	10	.54	2	7/16	9.50	12.30	14.00
4½ x 18	8	.55	2	½	.....	18.30	.....
5 x 18	8	.68	2½	½	17.50	25.00	28.75
6 x 18	8	.98	3	5/8	26.85	39.25	43.00
5 x 20	10	.85	2½	½	.....	30.50	.....
4 x 22	14	.76	2	7/16	.....	.....	15.90
5 x 22	12	1.02	2½	½	21.50	30.50	34.35
4 x 24	16	.87	2	7/16	.....	.....	16.90
5 x 24	14	1.19	2½	½	.....	.....	37.25
6 x 24	14	1.71	3	5/8	.....	.....	51.40

Fig. 1236
"BB" Plunger



3699 N

Fig. 1236
Exterior



3700 N



Fig. 1652
Exterior



3701 N

GOULDS PUMP CYLINDER OR WORKING BARREL, WITH RAISED WHITE BRONZE VALVE SEAT, PLATE 3701 N AND PLATE 3702 N

Fig. 1652 represents our outside capped cylinder fitted with special raised white bronze valve seat. This new seat is made of metal which is absolutely non-corrosive and will withstand the action of any kind of liquid. Seat is of raised construction to clear itself of foreign substances. It forms a perfectly tight seat for the lower valve.

In the 10-inch cylinders "AA" plungers are used and in the 16-inch "BB" plungers.

Fig. 1652

Diameter and length, inches.....	2 3/4 x 10 1/2	3 x 10 1/2	3 1/2 x 10 1/2	4 x 10 1/2	4 x 16	4 1/2 x 16
Stroke, inches.....	6	6	6	6	12	10
Capacity per stroke, gallons.....	.15	.18	.25	.32	.65	.69
Size pipe, inches.....	1 1/4	1 1/4	1 1/2	2	2	2
Well rod, inches.....	3/8	3/8	7/16	7/16	7/16	1/2
Iron.....	\$2.35	\$2.50	\$3.50	\$4.50	\$7.25	\$ 9.25
Brass-lined, brass cage and valve plunger.....	4.70	5.00	5.65	7.50	9.80	14.00

Fig. 1652
Sectional



3702 N

**BRASS ARTESIAN DEEP WELL CYLINDER, PLATE 3703 N
Removable Plunger and Check Valve.**

Fig. 904, brass deep well pump cylinder, is intended for use with our differential working heads, and for heavy deep well work. The working barrel or cylinder is seamless drawn brass tubing with cast bronze top and bottom attachments, which are threaded for standard wrought iron pipe connections. At the bottom a suction pipe and strainer may be attached. The plunger and check valve are bronze with bronze ball valves. The plunger has cup leather packings. The plunger and lower valve can be inserted or removed through the connecting pipe, which is larger diameter than the bore of cylinder. Wood sucker rods with forged couplings are recommended. The valve stems and sucker rod couplings are all made with standard pin threads.

Fig. 904



3703 N

Inside Diameter	Stroke	Displacement per Stroke	Usual Speed and Displacement per Minute	Dimensions		Top and Bottom Connecting Pipes	Size Sucker Rod	All Brass
				Length Pump Chamber	Maximum Outside Diameter Caps			
1 3/4-inch	10-inch	.104 gals.	35 revs. 3.6 gals.	26-inch	2 7/8-inch	2 -inch	1 1/8-inch	\$ 17.50
1 3/4-inch	12-inch	.125 gals.	30 revs. 3.7 gals.	28-inch	2 7/8-inch	2 -inch	1 1/8-inch	19.00
1 3/4-inch	16-inch	.170 gals.	30 revs. 5.1 gals.	32-inch	2 7/8-inch	2 -inch	1 1/8-inch	19.00
1 3/4-inch	20-inch	.208 gals.	30 revs. 6.2 gals.	36-inch	2 7/8-inch	2 -inch	1 1/8-inch	20.00
1 3/4-inch	24-inch	.249 gals.	25 revs. 6.2 gals.	40-inch	2 7/8-inch	2 -inch	1 1/8-inch	21.00
2 1/4-inch	10-inch	.172 gals.	35 revs. 6.0 gals.	26-inch	3 1/2-inch	2 1/2-inch	1 3/8-inch	26.00
2 1/4-inch	12-inch	.206 gals.	30 revs. 6.1 gals.	28-inch	3 1/2-inch	2 1/2-inch	1 3/8-inch	28.00
2 1/4-inch	16-inch	.275 gals.	30 revs. 8.2 gals.	32-inch	3 1/2-inch	2 1/2-inch	1 3/8-inch	28.00
2 1/4-inch	20-inch	.344 gals.	30 revs. 10.3 gals.	36-inch	3 1/2-inch	2 1/2-inch	1 3/8-inch	30.00
2 1/4-inch	24-inch	.413 gals.	25 revs. 10.3 gals.	40-inch	3 1/2-inch	2 1/2-inch	1 3/8-inch	30.00
2 3/4-inch	10-inch	.257 gals.	35 revs. 8.9 gals.	26-inch	3 7/8-inch	3 -inch	1 3/8-inch	34.00
2 3/4-inch	12-inch	.309 gals.	30 revs. 9.2 gals.	28-inch	3 7/8-inch	3 -inch	1 3/8-inch	36.00
2 3/4-inch	14-inch	.360 gals.	30 revs. 10.8 gals.	30-inch	3 7/8-inch	3 -inch	1 3/8-inch	36.00
2 3/4-inch	16-inch	.411 gals.	30 revs. 12.3 gals.	32-inch	3 7/8-inch	3 -inch	1 3/8-inch	36.00
2 3/4-inch	20-inch	.514 gals.	30 revs. 15.4 gals.	36-inch	3 7/8-inch	3 -inch	1 3/8-inch	38.00
2 3/4-inch	24-inch	.617 gals.	25 revs. 15.4 gals.	40-inch	3 7/8-inch	3 -inch	1 3/8-inch	38.00
3 1/4-inch	10-inch	.359 gals.	35 revs. 12.5 gals.	30-inch	4 1/2-inch	3 1/2-inch	2 -inch	45.00
3 1/4-inch	12-inch	.431 gals.	30 revs. 12.9 gals.	32-inch	4 1/2-inch	3 1/2-inch	2 -inch	48.00
3 1/4-inch	14-inch	.503 gals.	30 revs. 15.0 gals.	34-inch	4 1/2-inch	3 1/2-inch	2 -inch	48.00
3 1/4-inch	16-inch	.575 gals.	30 revs. 17.2 gals.	36-inch	4 1/2-inch	3 1/2-inch	2 -inch	48.00
3 1/4-inch	20-inch	.718 gals.	25 revs. 17.9 gals.	40-inch	4 1/2-inch	3 1/2-inch	2 -inch	52.00
3 1/4-inch	24-inch	.862 gals.	25 revs. 21.5 gals.	44-inch	4 1/2-inch	3 1/2-inch	2 -inch	52.00
3 3/4-inch	10-inch	.478 gals.	35 revs. 16.7 gals.	34-inch	5 1/8-inch	4 -inch	2 1/4-inch	67.50
3 3/4-inch	12-inch	.574 gals.	30 revs. 17.2 gals.	36-inch	5 1/8-inch	4 -inch	2 1/4-inch	70.00
3 3/4-inch	14-inch	.669 gals.	30 revs. 20.0 gals.	38-inch	5 1/8-inch	4 -inch	2 1/4-inch	70.00
3 3/4-inch	16-inch	.765 gals.	30 revs. 22.9 gals.	40-inch	5 1/8-inch	4 -inch	2 1/4-inch	70.00
3 3/4-inch	20-inch	.956 gals.	25 revs. 23.9 gals.	44-inch	5 1/8-inch	4 -inch	2 1/4-inch	75.00
3 3/4-inch	24-inch	1.147 gals.	25 revs. 28.6 gals.	48-inch	5 1/8-inch	4 -inch	2 1/4-inch	75.00
4 1/4-inch	10-inch	.614 gals.	35 revs. 21.5 gals.	34-inch	5 3/4-inch	4 1/2-inch	2 1/2-inch	87.50
4 1/4-inch	12-inch	.737 gals.	30 revs. 22.1 gals.	36-inch	5 3/4-inch	4 1/2-inch	2 1/2-inch	90.00
4 1/4-inch	14-inch	.860 gals.	30 revs. 25.8 gals.	38-inch	5 3/4-inch	4 1/2-inch	2 1/2-inch	90.00
4 1/4-inch	16-inch	.982 gals.	30 revs. 29.4 gals.	40-inch	5 3/4-inch	4 1/2-inch	2 1/2-inch	90.00
4 1/4-inch	20-inch	1.228 gals.	25 revs. 30.7 gals.	44-inch	5 3/4-inch	4 1/2-inch	2 1/2-inch	95.00
4 1/4-inch	24-inch	1.473 gals.	25 revs. 36.8 gals.	48-inch	5 3/4-inch	4 1/2-inch	2 1/2-inch	95.00
4 3/4-inch	10-inch	.767 gals.	35 revs. 26.8 gals.	34-inch	6 1/4-inch	5 -inch	3 -inch	120.00
4 3/4-inch	12-inch	.920 gals.	30 revs. 27.6 gals.	36-inch	6 1/4-inch	5 -inch	3 -inch	127.50
4 3/4-inch	14-inch	1.073 gals.	30 revs. 32.2 gals.	38-inch	6 1/4-inch	5 -inch	3 -inch	127.50
4 3/4-inch	16-inch	1.227 gals.	30 revs. 36.8 gals.	40-inch	6 1/4-inch	5 -inch	3 -inch	127.50
4 3/4-inch	20-inch	1.534 gals.	25 revs. 38.3 gals.	44-inch	6 1/4-inch	5 -inch	3 -inch	135.00
4 3/4-inch	24-inch	1.841 gals.	25 revs. 46.0 gals.	48-inch	6 1/4-inch	5 -inch	3 -inch	135.00
5 1/4-inch	10-inch	1.124 gals.	35 revs. 39.3 gals.	34-inch	7 1/4-inch	6 -inch	3 1/2-inch	172.50
5 1/4-inch	14-inch	1.573 gals.	30 revs. 47.2 gals.	38-inch	7 1/4-inch	6 -inch	3 1/2-inch	180.00
5 1/4-inch	16-inch	1.798 gals.	30 revs. 53.9 gals.	40-inch	7 1/4-inch	6 -inch	3 1/2-inch	180.00
5 1/4-inch	20-inch	2.248 gals.	25 revs. 56.3 gals.	44-inch	7 1/4-inch	6 -inch	3 1/2-inch	195.00
5 1/4-inch	24-inch	2.696 gals.	25 revs. 67.4 gals.	48-inch	7 1/4-inch	6 -inch	3 1/2-inch	195.00
6 3/4-inch	16-inch	2.479 gals.	30 revs. 74.3 gals.	40-inch	8 1/4-inch	7 -inch	4 -inch	280.00
6 3/4-inch	24-inch	3.716 gals.	25 revs. 92.7 gals.	48-inch	8 1/4-inch	7 -inch	4 -inch	300.00
7 3/4-inch	16-inch	3.267 gals.	30 revs. 98.0 gals.	40-inch	9 1/2-inch	8 -inch	5 -inch	425.00
7 3/4-inch	24-inch	4.900 gals.	25 revs. 122.5 gals.	48-inch	9 1/2-inch	8 -inch	5 -inch	450.00
8 3/4-inch	16-inch	4.164 gals.	30 revs. 124.5 gals.	52-inch	11 -inch	9 -inch	5 1/2-inch	685.00
8 3/4-inch	24-inch	6.247 gals.	25 revs. 156.1 gals.	60-inch	11 -inch	9 -inch	5 1/2-inch	725.00



EUREKA CYLINDERS, PLATE 3704 N AND PLATE 3705 N

Plate 3704 N has two-leather brass plunger and brass check with poppet valves. It is fastened in well pipe by seating tool which expands rubber packing.

Plate 3705 N is same as above, with four-leather plunger and bronze ball valves.



3704 N

Size of Well, Inches	Inside Diameter, Inches	Stroke, Inches	Plate 3704 N Each	Plate 3705 N Each
2	1 ¹³ / ₁₆	12	\$ 6.40	\$ 4.50
2	1 ¹³ / ₁₆	16	7.60	5.00
2½	2¼	12	11.00	9.00
2½	2¼	16	12.50	10.50
3	2¾	12	15.00	12.50
3	2¾	16	17.00	13.50
3½	3	12	30.00	23.00
3½	3	16	33.00	24.50
4	3½	12	33.00	31.00
4	3½	16	36.00	32.50
4	3½	24	42.00	35.50
4½	4	16	50.00	41.00
4½	4	24	58.00	45.00
5	4½	24	60.00	60.00
5	4½	36	80.00	70.00
6	5½	24	112.00	90.00
6	5½	36	136.00	104.00
8	7 ⁷ / ₁₆	36	360.00	240.00
8	7 ⁷ / ₁₆	42	400.00	260.00



3705 N



3705½ N

SEATING TOOL FOR EUREKA CYLINDER, PLATE 3705½ N

Size cylinder, inches	2	2½	3	4	5	6	7	8
Each	\$0.60	\$0.90	\$1.20	\$2.40	\$6.00	\$8.00	\$10.00	\$12.00



3706 N



3707 N

GALVANIZED TUBULAR WELL CYLINDERS, BRASS LINED, PLATE 3706 N

2 x36-inch cylinder	\$ 6.90
2½x36-inch cylinder	9.30
3 x36-inch cylinder	11.50
2 x36-inch cylinder, with shoe	7.75
2½x36-inch cylinder, with shoe	10.50
3 x36-inch cylinder, with shoe	13.00

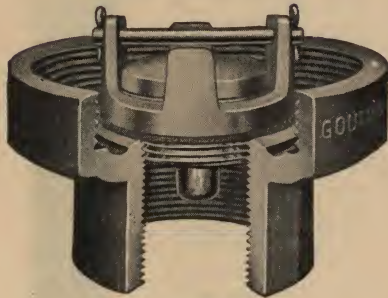
GALVANIZED TUBULAR WELL CYLINDERS, BRASS LINED, PLATE 3707 N

2 x36-inch cylinder, complete, 2 leather valves	\$13.00
2 x36-inch cylinder, complete, 4 leather valves	14.00
2½x36-inch cylinder, complete, 2 leather valves	18.00
2½x36-inch cylinder, complete, 4 leather valves	20.00
3 x36-inch cylinder, complete, 2 leather valves	24.00
3 x36-inch cylinder, complete, 4 leather valves	26.00



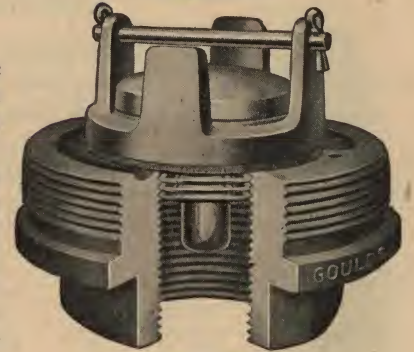
GOULDS NEW "UNIVERSAL" VALVE AND SEAT, PLATE 3708 N AND PLATE 3709 N

Fig. 1623—In Outside Cylinder Attachment



3708 N

Fig. 1623—In Inside Cylinder Attachment



3709 N

Interchangeable with Leather Valves.
 Fig. 1623—The new "Universal" bronze valve and seat is the most satisfactory suction valve made. It can be interchanged with leather valves in all our cylinders (Figs. 1230, 1231, 1235, 1236), both inside and outside capped. The valve cage and seat are solid bronze, cast in one piece. The valve is the poppet style, insuring a more direct waterway than can be obtained with a flap valve. The poppet valve is leather faced, insuring a perfect seat. When it is necessary to take the cylinder apart, this can be done easily with no danger of breaking the valve or seat.

Diameter of cylinders, inches.....	2-2¼	2½-2¾-3	3½	4-4½	5	6	8
For cylinders with attachments tapped, inches.....	1	1¼	1½	2	2½	3	4
Fig. 1623, complete (not including cylinder attachment), each	\$0.75	\$0.90	\$1.00	\$1.50	\$2.50	\$5.75	\$8.75

Fig. 658 Strainer, with set screw



3710 N

Fig. 659 Strainer, with female thread



3711 N

Fig. 660 Strainer, with male thread



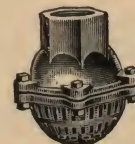
3712 N

Fig. 826 Strainer



3713 N

Fig. 760 Foot valve



3714 N

Fig. 471



3715 N

FOOT VALVES AND STRAINERS, PLATE 3710 N TO PLATE 3715 N

Size, inches	¾	1	1¼	1½	2	2½
Figs. 658, 659, 660, plain, each	\$.....	\$0.18	\$0.20	\$0.24	\$0.36	\$.....
Figs. 658, 659, 660, galvanized, each .....	.....	.22	.24	.26	.40	.....
Figs. 658, 659, 660, galvanized and covered, each.....	.....	.28	.32	.36	.50	.....
Fig. 826, plain, each .....	.....	.....	.....	.....	.....	1.00
Fig. 826, galvanized, each .....	.....	.....	.....	.....	.....	1.40
Fig. 760, plain, each .....	.42	.44	.52	.65	.90	1.30
Fig. 760, galvanized, each .....	.60	.60	.75	1.00	1.45	2.00
Fig. 471, plain, each	1.05	1.20	1.30	1.45	1.75	4.40
Fig. 471, galvanized, each	1.45	1.60	1.75	2.10	2.70	6.90

Size, inches	3	3½	4	5	6	8
Fig. 826, plain, each	\$1.35	\$2.10	\$2.40	\$3.00	\$ 4.25	\$.....
Fig. 826, galvanized, each	2.00	3.25	3.60	4.75	6.25	.....
Fig. 760, plain, each	1.85	2.60	2.80	4.25	7.00	16.00
Fig. 760, galvanized, each	2.70	3.90	4.25	6.50	10.00	30.00
Fig. 471, plain, each	5.60	.....	.....	.....	.....	.....
Fig. 471, galvanized, each	8.75	.....	.....	.....	.....	.....



3717 N

Fig. 667



3718 N

Fig. 742



3719 N

GLOBE SUCTION BASKET, TO TIE ON, PLATE 3717 N

Size, inches	½	1	1¼	1½	2	2½
Black, each	\$0.50	\$0.50	\$0.50	\$0.65	\$1.00	\$1.50
Galvanized, each .....	.60	.60	.60	.75	1.25	1.90
Brass, each	2.00	2.25	2.25	2.75	3.50	5.00

CHECK VALVES, PLATE 3718 N AND PLATE 3719 N

Size, inches	¾	1	1¼	1½	2	2½	3	3½	4
Fig. 667, plain, each	\$0.90	\$0.90	\$1.00	\$1.15	\$1.55	\$2.80	\$3.45	\$.....	\$ 5.50
Fig. 667, galvanized, each	1.25	1.25	1.35	1.55	2.20	3.45	5.65	.....	10.35
Fig. 742, plain, each .....	.90	1.10	1.35	1.80	2.50	5.40	6.75	9.00	10.80
Fig. 742, galvanized, each	1.35	1.55	2.00	2.70	3.60	8.55	10.80	13.50	15.75



BRASS-BODY ARTESIAN WELL CYLINDER, PLATE 3720 N

Diameter cylinder, inches.....	2	2	2½	2½	3	3
Length of cylinder, inches.....	24	36	24	36	30	36
Price, without valves.....	\$7.60	\$10.80	\$11.60	\$17.20	\$23.00	\$27.50



3720 N



3721 N

ALL-BRASS ARTESIAN WELL CYLINDER, PLATE 3721 N

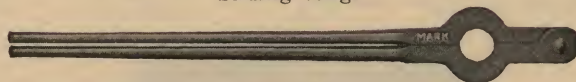
With Bronze Ball Valves.

Inside Diameter, Inches	Length Stroke, Inches	Capacity per Stroke, Gallons	Length Pump Barrel, Inches	Octagon Wood Rod, Inches	Each
1¾	10	.100	27	1⅛	\$ 17.50
1¾	16	.160	33	1⅛	19.00
2¼	16	.275	35	1⅝	28.00
2¼	24	.410	43	1⅝	30.00
2¾	16	.411	37	1⅝	36.00
2¾	24	.610	45	1⅝	38.00
2¾	36	.925	57	1⅝	42.00
3¼	16	.574	41	1⅞	48.00
3¼	30	1.060	55	1⅞	55.00
3¼	36	1.292	61	1⅞	58.00
3¾	24	1.147	51	2¼	75.00
3¾	30	1.374	57	2¼	80.00
3¾	36	1.720	63	2¼	85.00
4¼	24	1.473	53	2¼	95.00
4¼	30	1.842	59	2¼	100.00
4¼	36	2.210	65	2¼	105.00



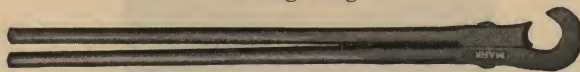
3722 N

Sliding tongs



3723 N

Lifting tongs



3724 N



3725 N

MONITOR PIPE HOLDER, PLATE 3722 N

Holds pipe 1 to 2 inches, each..... \$5.00

SLIDING AND LIFTING TONGS, PLATE 3723 N AND PLATE 3724 N

Number	1	2	3	4	5
Used for pipe, inches.....	¾	1	1¼	1½	2
Each	\$4.00	\$4.50	\$5.00	\$5.50	\$6.00

BABCOCK PIPE LIFTER AND HOLDER, PLATE 3725 N

Handles pipe 1 to 2 inches, each..... \$6.50



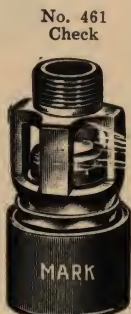
3726 N

COOK'S SEAMLESS BRASS SLOTTED STRAINER, PLATE 3726 N

Inside diameter of well, inches.....	2	2½	3	3½	4	4½	5	6	7	8
Length in feet.....	2	2	2	2	4	4	4	6	6	6
Each	\$3.50	\$4.00	\$5.00	\$6.75	\$13.00	\$14.50	\$16.00	\$30.00	\$39.00	\$51.00



3727 N



3728 N



3729 N



3730 N



3731 N



3732 N

No. 474
Bale Top Ball Check



3733 N

No. 475
Four-Leather
Plunger



3734 N

No. 482
Morris Perfection
Check Valve



3735 N

No. 483
Morris Perfection
Plunger



3736 N

Eureka Plunger



3737 N

Eureka Check



3738 N

CHECK AND PLUNGER VALVES, PLATE 3727 N TO PLATE 3738 N

Size, inches	2	2	2½	2½	3	3	4	4	5	5	6	6
Leathers	2	4	2	4	2	4	2	4	2	4	2	4
Per set	\$2.40	\$3.20	\$6.00	\$7.00	\$8.00	\$10.00	\$16.00	\$18.00	\$40.00	\$44.00	\$50.00	\$60.00

The above prices include complete plunger and check valve.



3739 N



3740 N

WELL SEAL, PLATE 3739 N

Diameter well, inches.....	2	2½	3	3½	4	4½	5	6	7
Tapped for pipe, inches.....	¾	1	1¼	2	2½	3	3½	4	5
Each	\$2.00	\$3.00	\$4.00	\$6.00	\$8.00	\$12.00	\$16.00	\$20.00	\$30.00

RUBBER PACKERS FOR TUBULAR WELL VALVES, PLATE 3740 N

Valves, inches	2	2½	3	3½	4	5	6
Each	\$0.16	\$0.30	\$0.40	\$0.60	\$0.80	\$3.00	\$4.00



3741 N

BRONZE BALLS, PLATE 3741 N

Diameter, inches.....	5/8	3/4	7/8	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	2
Each	\$0.30	\$0.35	\$0.35	\$0.50	\$0.70	\$0.90	\$1.10	\$1.40	\$2.15
Diameter, inches.....	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	4	4 1/2	5
Each	\$2.75	\$3.75	\$4.25	\$4.75	\$5.50	\$6.00	\$6.75	\$10.00	\$12.00



3742 N

HARD RUBBER BALLS, PLATE 3742 N

Diameter, inches.....	1 1/8	1 1/4	1 1/2	1 3/4
Each	\$0.10	\$0.25	\$0.40	\$0.50



MALE

FEMALE

3743 N

OAK OR ASH WOOD ROD AND COUPLINGS, PLATE 3743 N

Size, inches.....	1 1/8	1 1/4	1 3/8	1 5/8	1 7/8	2	2 1/4	2 1/2	3	3 1/2
Rod and couplings, per foot.....	\$0.06	\$0.07	\$0.13	\$0.13	\$0.26	\$0.32	\$0.43	\$0.51	\$0.75	\$0.84
Wood rod, no couplings, per foot.....	.04	.05	.05	.06	.12	.15	.18	.23	.33	.34

GALVANIZED STEEL PUMP ROD

3/8-inch, 3 feet to pound, per pound.....	\$0.15
7/16-inch, 2 feet to pound, per pound.....	.15

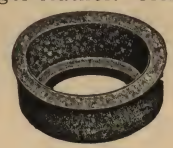
VALVE AND PLUNGER LEATHERS

Made of Pure Oak-Tanned Stock.

Plunger leather. Crimped

Plunger leather. Not crimped

Lower valve leather



3744 N



3745 N



3746 N

CRIMPED PLUNGER LEATHERS, PLATE 3744 N

Size, inches.....	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	4	4 1/2	5	6
Per gross.....	\$6.00	\$8.00	\$9.00	\$10.00	\$13.00	\$14.50	\$16.50	\$18.50	\$24.50	\$31.50	\$40.00	\$49.00	\$72.00

FLAT VALVE AND PLUNGER LEATHERS, PLATE 3745 N AND PLATE 3746 N

Diameter cylinder, inches.....	2	2 1/4	2 1/2	2 3/4	3 1/2	4	4 1/2	5	6
Outside diameter leather, inches.....	2 1/2	2 3/4	3	3 1/4	4	4 1/2	5 1/4	5 3/4	6 3/4
Per gross.....	\$6.50	\$5.00	\$8.50	\$10.00	\$15.00	\$18.00	\$21.00	26.00	\$36.00

VALVE LEATHER

Best selected sides, from 12 to 17 pounds, per pound.....	\$0.75
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3747 N



3748 N

COUPLING FOR IRON ROD, PLATE 3747 N

Size Rods, Inches	Threads to the Inch	Galvanized, per lb.	Plain, per lb.	Brass, per lb.
3/8	14, regular	\$0.20	\$0.16	\$0.50
3/8	16, to order	.20	.16	.50
3/8 x 7/16	12 x 14	.20	.16	.50
7/16	12	.20	.16	.50
1/2	12	.20	.16	.50
5/8	11	.20	.16	.50
3/4	10	.20	.16	.50

REDUCER COUPLINGS, PLATE 3748 N

Size	Galvanized, per lb.	Plain, per lb.
For 1/2 and 3/4-inch pipe and steel pump rods.		
1/2-inch pipe, 3/8-inch rod.....	\$0.30	\$0.25
1/2-inch pipe, 7/16-inch rod.....	.30	.25
3/4-inch pipe, 3/8-inch rod.....	.30	.25
3/4-inch pipe, 7/16-inch rod.....	.30	.25



3749 N

MALLEABLE WOOD ROD COUPLING, PLATE 3749 N

For 1 and 1 1/8-inch rod, plain, 2-hole, price, per hundred.....	\$10.00
For 1 and 1 1/8-inch rod, galvanized, 2-hole, price, per hundred.....	14.00
For 1 and 1 1/8-inch rod, plain, 3-hole, price, per hundred.....	16.00
For 1 and 1 1/8-inch rod, galvanized, 3-hole, price, per hundred.....	20.00
For 1 1/4 and 1 3/8-inch rod, plain, 3-hole, price, per hundred.....	20.00
For 1 1/4 and 1 3/8-inch rod, galvanized, 3-hole, price, per hundred.....	24.00
For 1 1/2 and 1 3/4-inch rod, plain, 4-hole, price, per hundred.....	60.00
For 1 1/2 and 1 3/4-inch rod, galvanized, 4-hole, price, per hundred.....	80.00
For 1 and 1 1/8-inch rod, plain, 4-hole, price, per hundred.....	20.00
For 1 and 1 1/8-inch rod, galvanized, 4-hole, price, per hundred.....	24.00
For 1 1/4 and 1 3/8-inch rod, plain, 4-hole, price, per hundred.....	24.00
For 1 1/4 and 1 3/8-inch rod, galvanized, 4-hole, price, per hundred.....	28.00



Fig. 345



3750 N

Fig. 345½



3751 N

Fig. 346½



3752 N

Fig. 346



3753 N

GOULDS IMPROVED HYDRAULIC RAMS, PLATE 3750 N TO PLATE 3753 N

Fig. 345—With leather valve below air chamber—fitted for iron or lead pipe.

Size No.	2	3	4
Supply per minute to operate ram, gallons.....	2 to 3	2 to 4	3 to 7
Pipes, drive, inches.....	¾	1	1¼
Pipes, discharge, inches.....	½	½	¾
Approximate weight in pounds.....	27	35	53
Each	\$11.00	\$14.00	\$17.50

Fig. 345½—With leather valve below air chamber—fitted for iron pipe only.

Size No. 5; supply per minute to operate ram, 6 to 12 gallons; pipe drive, 2 inches; pipe discharge, 1 inch; approximate weight in pounds, 94; price, \$25.00.

Fig. 346½ single ram—With brass spring valve below air chamber—fitted for iron pipe only.

Size No.	6	7	8
Supply per minute to operate ram, gallons.....	11 to 20	18 to 36	30 to 60
Pipes, drive, inches.....	2½	3	4
Pipes, discharge, inches.....	1¼	1½	2
Approximate weight in pounds.....	165	260	412
Each	\$45.00	\$85.00	\$140.00

Fig. 346 double ram—With brass spring valve below air chamber—fitted for iron pipe only.

Size No.	6	7	8
Supply per minute to operate ram, gallons.....	22 to 40	36 to 70	60 to 120
Pipes, drive, inches.....	2½	3	4
Pipes, discharge, inches.....	1½	2	2½
Approximate weight in pounds.....	365	560	1,012
Each	\$100.00	\$180.00	\$295.00

HOW TO SELECT A RAM

The table at the bottom of this page shows how to select the size of ram which will operate best under given conditions. The length of the drive pipe must be about the same as the vertical height from the base of the ram to the highest point to which the water is delivered. To obtain the best service the ratio of the discharge elevation to the drive head or fall should be about 7 to 1, but these rams will work satisfactorily under ratios up to 17 to 1, the only difference in the operation being that the amount of water delivered will decrease as the discharge elevation increases. The data regarding supply required and amount delivered given in the last column of the table at the bottom of the page applies to all the conditions of discharge head and fall as given in the columns on the left. For example: the No. 4 ram requires a supply of 3 to 7 gallons per minute and will deliver 15 to 35 gallons per hour when the discharge elevation is 20 feet and the fall is 3 feet, or when the discharge elevation is 80 feet and the fall is 10 feet.

Table of Proportionate Head of Fall Giving Highest Efficiency in Operation of Hydraulic Rams.

To deliver water to height of	Place ram under	Conducted through	Any size ram may be operated under these conditions, and will afford the following approximate delivery:
20 feet above ram	3 feet head of fall	30 feet of drive pipe	No. 2 require 2 to 3 gals. min. and del. 10 to 15 gals. per hour
30 feet above ram	4 feet head of fall	30 feet of drive pipe	No. 3 require 2 to 4 gals. min. and del. 10 to 20 gals. per hour
40 feet above ram	5 feet head of fall	40 feet of drive pipe	No. 4 require 3 to 7 gals. min. and del. 15 to 35 gals. per hour
50 feet above ram	7 feet head of fall	50 feet of drive pipe	No. 5 require 6 to 12 gals. min. and del. 30 to 60 gals. per hour
60 feet above ram	8 feet head of fall	60 feet of drive pipe	No. 6 require 11 to 20 gals. min. and del. 55 to 100 gals. per hour
80 feet above ram	10 feet head of fall	80 feet of drive pipe	No. 7 require 18 to 35 gals. min. and del. 90 to 175 gals. per hour
100 feet above ram	14 feet head of fall	100 feet of drive pipe	No. 8 require 30 to 60 gals. min. and del. 150 to 300 gals. per hour
120 feet above ram	17 feet head of fall	125 feet of drive pipe	

It is assumed that the smaller rams will not be selected for extremely high lifts, as the friction loss of water in a small drive and discharge pipe renders their use impracticable.

Where water supply will permit, always select ram of ample size for requirements.



Fig. 1068



3757 N

Fig. 1129



3758 N

Fig. 1467



3759 N

Fig. 1558



3760 N

GOULDS "BORDEAUX" AND KNAPSACK SPRAY PUMPS, PLATE 3757 N TO PLATE 3760 N

Fig. 1068—The pump is the same as our Fig. 1129, but without adjustable foothold. The tank is of galvanized iron, with solid wood bottom extended at one end for a foothold. The capacity is about six gallons. The ball valves are of brass.
 With 5 feet of 3/8-inch discharge hose and Seneca spray nozzle, weight 11 pounds, each.....\$18.75

Fig. 1129—The "Bordeaux." The sprayer is placed in a pail or bucket with foothold on outside. The brass ball valves are proof against the action of acid and oils. Footpiece is malleable iron.

With 3 feet of 3/8-inch discharge hose and Seneca spray nozzle, weight 6 pounds each.....\$6.75

Fig. 1467—The "Bordeaux." Same as Fig. 1129, but with an improved foothold and pail clamp.
 With 3 feet of 3/8-inch discharge hose and Seneca nozzle.....\$7.50

Fig. 1558—The "Handy." A high-grade knapsack sprayer, with brass pump, equipped with ball valves which are easily accessible. The tank has a capacity of 5 gallons, and is made of copper or galvanized iron, as desired. When of copper the outfit is known as Fig. 1558, and when of galvanized iron it is known as Fig. 1564.

Fig. 1558—With 3 1/2 feet of 3/8-inch discharge hose and Seneca nozzle, each\$30.00

Fig. 1564—With 3 1/2 feet of 3/8-inch discharge hose and Seneca nozzle, each 25.00

Fig. 905 1/2



3761 N

Fig. 1437



3762 N

GOULDS "STANDARD" SPRAYER, PLATE 3761 N

The cylinder is brass lined, the plunger brass encased and valves all brass. The price includes brass strainer for suction pipe, but does not include the suction pipe or agitator. If wanted, these can be supplied at extra price.

Pump, with Strainer and Hose Couplings.

Number	2	4
Diameter cylinder, inches.....	2 1/2	3
Suction pipe, inches.....	1	1 1/4
Double discharge, inches.....	1/2-in. hose, 3/4-in. pipe	1/2-in. hose, 1-in. pipe
Each	\$11.00	\$15.75

Outfit C—2 1/2-inch sprayer, with 1-inch iron suction pipe, brass strainer and one lead of 15 feet 1/2-inch discharge hose, with "Mistry Jr." nozzle.....\$17.75

Outfit CC—3-inch sprayer, fitted in same manner, except with 1 1/4-inch pipe and 1/2-inch hose..... 22.50

Outfit D—2 1/2-inch sprayer, with 1-inch iron suction pipe, brass strainer and two leads of 15 feet each 1/2-inch discharge hose with "Mistry Jr." nozzles..... 24.00

Outfit DD—3-inch sprayer, fitted in same manner, except with 1 1/4-inch pipe and 1/2-inch hose..... 28.75

In ordering Fig. 905 1/2, state whether it is to be mounted on side or top of barrel. End of barrel unless otherwise specified. We supply barrel and mount sprayer either on side for \$4.50 or top for \$3.50 extra, list, but barrel is not furnished unless specially ordered.

BAMBOO EXTENSION, PLATE 3762 N

Fig. 1437—Our bamboo extension consists of a non-corrosive tube mounted inside a bamboo rod. It is strongly reinforced where the shut-off is attached to the tube to prevent breakage when dragging the hose. The tube is 1/4 inch inside diameter and is fitted with a brass stop-cock with 1/4-inch female pipe thread, thus adapting it for connection to hose with Fig. 67 coupling. The other end of extension is fitted for brass coupling, 1/4-inch male pipe thread to fit the nozzle. Fig. 1437, 8 or 10 feet long.

Each \$14.25



Fig. 1631



3763 N

Fig. 1643



3764 N

GOULDS "STURDY" AND "DREADNAUGHT" DUPLEX POWER SPRAY PUMPS, PLATE 3763 N AND PLATE 3764 N

The "Sturdy" (Fig. 1631) can be connected direct to the shaft of any gasoline engine. No jack or gears are necessary. The gear ratio is $8\frac{1}{2}$ to 1, and the pump can, therefore, be connected direct to all engines with speeds of 400 to 600 R. P. M., giving pump speeds of 50 to 75 R. P. M. At 50 R. P. M. the pump has a capacity of 3.4 gallons per minute; at 60 R. P. M. it has a capacity of 4 gallons, and at 75 R. P. M. it has a capacity of 5 gallons per minute. The overall dimensions of the pump are: Height, 19 $\frac{3}{4}$ inches; width, 14 $\frac{1}{2}$ inches; and length to end of shaft, 18 $\frac{1}{2}$ inches.

The "Dreadnaught" (Fig. 1643) is a high-grade, medium size, single-acting power spray pump, designed for pressures up to 250 pounds, and is fitted with double reduction spur gearing. This gearing permits the pump to be direct-connected to an engine shaft without the use of a jack or extra gearing. The gear ratio is 9 to 1. When operated at speed recommended—50 to 67 revolutions per minute—engines with speeds of 450 to 600 revolutions per minute can be used. Pump has a capacity of from 5.3 gallons to 7 gallons per minute at speeds of from 50 to 67 revolutions per minute. The pump can be operated in both directions and can be driven from either end of the shaft. When a horizontal engine is used this allows the outfit to be connected up in the best way to give proper distribution of weight. The overall dimensions are: Width, 18 $\frac{1}{2}$ inches; length, 24 inches; height, 18 inches. This makes a very compact outfit.

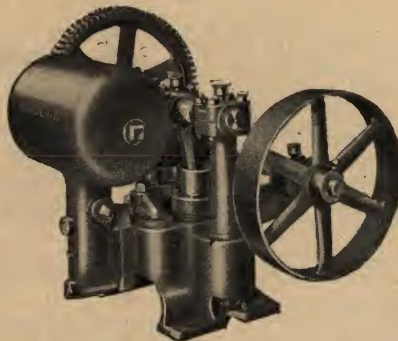
Fig. 1631—Pump, with Strainer and Hose Couplings.
With Flexible Coupling, or 8x2 $\frac{1}{2}$ -inch Single Pulley.

Cylinder, diameter, inches	2
Cylinder, stroke, inches	2 $\frac{1}{2}$
Suction hose, inches.....	1
Double discharge hose, inches.....	3 $\frac{3}{8}$
Each	
Outfit S—Pump, with flexible coupling or pulley, pressure gauge, relief valve, 10 feet 1-inch rubber suction hose, and strainer (Fig. 70 $\frac{1}{2}$), two 25-foot lengths of $\frac{3}{8}$ -inch discharge hose and couplings, two brass Y connections and four Mistry Jr. nozzles	\$75.00
	\$118.75

Fig. 1643—Pump, with Strainer and Hose Couplings.
Regularly furnished with Flexible Coupling.

Cylinder, diameter, inches	2 $\frac{1}{2}$
Cylinder, stroke, inches	2 $\frac{1}{2}$
Suction hose, inches.....	1
Double discharge hose, inches.....	3 $\frac{3}{8}$
Each	
Outfit T—Pump, with flexible coupling, pressure gauge, water relief valve, 10 feet of 1-inch rubber suction hose, and strainer (Fig. 70 $\frac{1}{2}$), 4 $\frac{1}{16}$ -inch diameter, two 25-foot lengths $\frac{3}{8}$ -inch discharge hose and couplings, two brass Y connections and four Mistry Jr. nozzles, with coarse discs.....	\$93.75
	\$137.50

Fig. 1603



3765 N

GOULDS "INVINCIBLE" DUPLEX POWER SPRAYER, PLATE 3765 N

The "Invincible" is a large capacity sprayer for belt or gear connection to the gasoline engine. It is also used as a water supply pump on farms, in country homes, mills, factories, etc. At 50 R. P. M. it has a capacity of 9 gallons per minute; at 65 R. P. M. it has a capacity of 12 gallons per minute. It is good for 250 pounds pressure. The plungers are 3 inches in diameter and the stroke is 3 inches. The gear ratio is 5 to 1.

Outfit L—Pump, with pulley for belt drive, relief valve, pressure gauge, double shut-off, hose couplings and suction strainer.....	\$112.50
Outfit N—Pump, with pulley, relief valve, pressure gauge, double shut-off, suction strainer, hose couplings, 10 feet of 1 $\frac{1}{4}$ -inch suction hose, two Fig. 1437 bamboo extensions, two Fig. 67 couplings and two "Mistry Jr." nozzles.....	143.75
Outfit O—Same as "L," but with gears and pinion instead of pulley.....	112.50
Outfit Q—Same as "N," but with gears and pinion instead of pulley.....	143.75



Fig. 1508



3766 N

Fig. 1509



3767 N

GOULDS "ADMIRAL" DOUBLE-ACTING HAND SPRAYER, PLATE 3766 N

Fig. 1508—The "Admiral" is a double-acting sprayer. The cylinder has a brass lining of seamless tubing, held in place by threaded connections. When worn out, this lining can be removed easily and replaced with a new one. The valves, valve seats and valve caps are all brass; each valve is in a separate valve box, and easily accessible. The piston rod is of brass and outside-guided, insuring an absolutely straight thrust through the stuffing box.

Fig. 1508—Pump, with Strainer and Hose Couplings.

Number	2	4
Diameter cylinder, inches.....	2½	3
Suction hose, inches.....	1	1¼
Double discharge hose, inches.....	¾	¾
Number of nozzles pump will supply.....	4	6
Each	\$39.50	\$40.75
Outfit G—2½-inch cylinder, with 5 feet 1-inch rubber suction hose and strainer, Fig. 70, ¾-inch diameter and one 25-foot length of ¾-inch discharge hose, with one "Mistry Jr." nozzle.....		\$52.50
Outfit GG—3-inch cylinder, same as outfit G, except 1¼-inch suction hose		54.50
Outfit H—2½-inch cylinder, same as outfit G, with two 25-foot lengths of ¾-inch discharge hose and two "Mistry Jr." nozzles		62.00
Outfit HH—3-inch cylinder, same as outfit H, except 1¼-inch suction hose		63.75

Additional suction and discharge hose furnished at extra cost, if ordered.

GOULDS "VICE-ADMIRAL" DOUBLE-ACTING POWER SPRAYER, PLATE 3767 N

Fig. 1509—This pump is double-acting and of the same pattern as the "Admiral," but fitted with a pitman for power drive. The working stroke on the pitman is 4 inches.

The cylinder is fitted with a seamless drawn brass lining, which can readily be replaced. The valves, valve seats and valve caps are all brass and easily accessible, each in a separate valve box. The waterways are large and direct. The piston is equipped with two specially prepared, cupped packings, which can be replaced easily at any time. The stuffing box is outside packed and provided with a brass gland. The brass piston rod is outside-guided so as to insure a perfectly straight thrust through the stuffing box. The pitman is tapped for 1-inch iron rod, U. S. standard thread. Suction can be taken from either side of the pump and there are two discharge openings fitted for ¾-inch hose.

Fig. 1509—Pump, with Strainer and Hose Couplings.

Number	2	4
Diameter cylinder, inches.....	2½	3
Suction hose, inches.....	1	1¼
Double discharge hose, inches.....	¾	¾
Number of nozzles pump will supply.....	4	6
Each	\$40.00	\$41.00
Outfit K—2½-inch sprayer, with pressure gauge, water relief valve, 10 feet 1-inch rubber suction hose and strainer, Fig. 70½, 47/16 inches diameter, two 25-foot lengths of ¾-inch discharge hose and couplings, two brass "Y" connections, Fig. 1074½ and four "Mistry Jr." nozzles.....		\$81.50
Outfit KK—3-inch sprayer, with same outfit as described above, but with 10 feet 1¼-inch rubber suction hose and strainer, Fig. 70½, 47/16 inches diameter.....		84.00

Prices do not include pressure gauge.

Additional suction and discharge hose furnished at extra cost, if ordered.



Fig. 1546



3768 N

GOULDS "EMPEROR" PUMP, PLATE 3768 N

Fig. 1546—This pump is a two-cylinder hand spray pump, fitted with a walking beam and connecting rod for operating the plungers when connected to gasoline engine or other power attachment.

The gland and follower, valves, valve caps and seats are all made of bronze, the plungers are solid bronze, outside packed, and the valves can be easily reached by removing the valve covers.

Discharge openings are provided on each side of the air chamber and the pump, with 2½-inch cylinder, will supply four leads of hose if necessary, or two leads each of two, three or four nozzles.

Pump, with Strainer and Hose Couplings.

Number	0	2
Diameter cylinder, inches.....	2	2½
Suction hose, inches.....	¾	1
Double discharge hose, inches.....	¾	¾
Each	\$50.00	\$60.00
Outfit R—2-inch, fitted with pressure gauge water relief valve, 10 feet ¾-inch suction hose with strainer and two leads, ¾-inch discharge hose 25 feet long, with fittings and four "Mistry Jr." spray nozzles.....	\$ 90.00	
Outfit RR—2½-inch, fitted up in the same manner, except has 1-inch suction hose.....	100.00	

Fig. 1613



3769 N

GOULDS PUMP JACK, PLATE 3769 N

The jack consists of a strong box frame carrying the gear and pinion shafts. The bearings are provided with grease cups for lubrication. The gear ratio is 5 to 1.

Furnished regularly with 8-inch by 2½-inch single tight pulley.

Wood rod 1¼x1¾x36 inches in length, with connections for flat or round handle, can be furnished with this jack at \$1.25 extra list. With these connections the jack can be used to operate our Figs. 1100 and 1188 barrel sprayers and any ordinary well pump.

Stroke, 6, 8 or 10 inches; geared 5 to 1; base dimensions, 6¾x9⅞ inches; each..... \$11.25



**GOULDS "POMONA"
BARREL SPRAYER,
PLATE 3770 N**

The working parts, including the plunger, plunger connection, gland, valve, valve seats and strainer, are of solid bronze. They are simple, accessible and easily removed. The pump has a steel air chamber. It is equipped with a long adjustable lever, producing 3, 4 or 5-inch strokes by simply removing and replacing a single bolt. The agitator is simple, but very effective, operated by the same lever that works the sprayer. "Pomona" pumps are fitted for end of barrel only.



3770 N

Pump, with Agitator and Hose Couplings.
Double Discharge.

Plunger, diameter, inches.....	2 1/2
Plunger, stroke, adjustable, inches.....	3, 4 or 5
Discharge, hose, inches.....	1/2
Discharge, pipe, inches.....	3/4
Each.....	\$22.00

Outfit C—With agitator and one lead 15 feet 1/2-inch discharge hose, with "Mistry Jr." nozzle..... 28.25

Outfit D—With agitator and two leads 15 feet each 1/2-inch discharge hose, with "Mistry Jr." nozzle... 34.50

We supply barrel and mount sprayer for \$3.50 extra, list, but barrel is not furnished unless specially ordered. If agitator is not wanted, deduct \$1.50 from list price.

Fig. 1188

**GOULDS
"FRUITALL" BAR-
REL SPRAYER,
PLATE 3771 N**

All working parts are of bronze, including plunger, gland, valves, valve seats and strainer. The pump is regularly fitted with wing agitator similar to the one supplied with the "Pomona." The sprayer is held in place in the barrel by an adjustable clamp at the top, fitting over the end of a stave, and an anchor at the bottom of the barrel. The plunger is packed from the outside. The "Fruitall" is not made for the side of the barrel.



3771 N

Pump, with Agitator and Hose Couplings.

Plunger, diameter, inches.....	2
Plunger, stroke, inches.....	4
Discharge hose, inches.....	1/2
Each.....	\$12.00

Outfit C—With agitator and one lead 15 feet 1/2-inch discharge hose, with "Mistry Jr." nozzle..... 18.25

Outfit D—With agitator and two leads 15 feet each 1/2-inch discharge hose, with "Mistry Jr." nozzle..... 24.50

We supply barrel and mount sprayer for \$3.50 extra list, but barrel not furnished unless specially ordered. If agitator is not wanted, deduct \$1.25 from list.

Fig. 1506



**GOULDS "MONARCH" SPRAYER,
PLATE 3772 N**

In the "Monarch" sprayer we offer a pump with two vertical cylinders and two powerful bronze plungers operated with a single lever.

All working parts are of bronze. The lever can be operated in a vertical or horizontal position. The plungers are packed from the outside and the valves can be easily reached by removing the valve covers.

3772 N

Pump, with Strainer and Hose Couplings.
Double Discharge.

Number.....	0	2
Diameter cylinder, inches.....	2	2 1/2
Suction hose, inches.....	3/4	1
Discharge hose, inches.....	1/2	1/2
Each.....	\$37.50	\$45.00

Outfit C—2-inch, fitted with 5 feet 3/4-inch suction hose, with strainer and one lead 1/2-inch discharge hose 15 feet long, with one "Mistry Jr." spray nozzle....\$46.25

Outfit CC—2 1/2-inch, fitted up in the same manner, except has 1-inch suction hose..... 54.50

Outfit D—2-inch, fitted in same manner, with two leads 1 1/2-inch discharge hose, each 15 feet..... 52.50

Outfit DD—2 1/2-inch, fitted in same manner, except has 1-inch suction hose..... 60.75



3773 N

**ENTERPRISE IMPROVED FLOAT VALVE,
PLATE 3773 N**

Equally effective under high or low pressure. Valve opens with the flow instead of against it. Will not chatter. Has brass valve seat. Valve will not stick. It is not injured by freezing. Pressure is resisted by pivot bolt in arch instead of the buoyance of float. By reversing the lever a perfect working outlet valve is had.

Size, inches..	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Each.....	\$1.25	\$1.40	1.50	\$3.00	\$5.00	\$7.50	\$10.00

Fig. 1253



3774 N



3775 N

COPPER TANK FLOAT, PLATE 3774 N

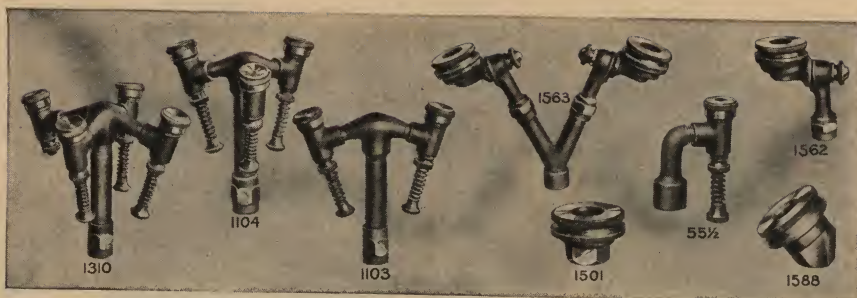
Can be bolted to a lever attached to tank valve to open and close automatically.

12 x 3 inches, each.....	\$1.50
9 1/2 x 2 3/4 inches, each.....	1.10

PUMP SPOUT ATTACHMENT, PLATE 3775 N

Fig. 1253, water conductor, has swiveled bail and is regularly tapped for 1 1/4-inch pipe; fitted 1 1/2-inch to order.

Each.....	\$1.00
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GOULDS SPRAY NOZZLES
"Vermorel"

Fig. 1103—Cut for 1/4-inch pipe.....	\$2.25
Fig. 1103—Including hose connection.....	2.50
Fig. 1104—Cut for 1/4-inch pipe.....	3.10
Fig. 1104—Including hose connection.....	3.40
Fig. 1310—Cut for 1/4-inch pipe.....	4.00
Fig. 1310—Including hose connection.....	4.25

The "Mistry"

Fig. 1562—For 1/4-inch pipe.....	\$1.25
Fig. 1562—For hose	1.40
Fig. 1563—Shows two "Mistry" nozzles on Fig. 1074 1/2 brass Y. They can be adjusted to spray any direction, with brass Y.....	2.85

The "Mistry Jr."—Straight or Angle

Fig. 1501—Made of brass, with hardened tool steel disc, which can be removed and replaced by new one. For 1/4-inch pipe and two discs.....	\$0.75
Fig. 1501—For hose connection.....	1.00
Extra discs, per dozen.....	.40

"Cyclone" Angle Nozzle
Figs. 51 and 52

Fig. 51—Cut for 1/4-inch pipe.....	\$0.40
Fig. 52—The Pacific Cyclone, same as Fig. 51, but has en.....	.45

"Cyclone" Nozzle

Fig. 1458	\$0.40
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"Seneca" Nozzle

Fig. 81—Cut for 1/4-inch pipe.....	\$1.15
Fig. 81—Including hose connection.....	1.40

The "Lenox" Nozzle

Fig. 1495—Made especially for whitewashing and other methods of painting. Cut for 1/4-inch pipe.....	\$0.85
Fig. 1495—Including hose connection.....	1.15

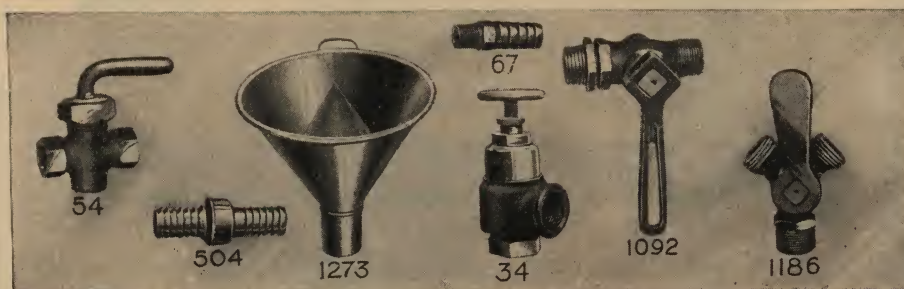
GOULDS STRAINERS

Fig. 70 1/2—1-inch and 1 1/4-inch pipe connection.

Connection, inches	3/4	1	1 1/4
Each	\$1.25	\$1.90	\$1.90

Fig. 70—Fitted for hose connection.

Connection, inches	3/4	1	1 1/4
Each	\$0.65	\$0.65	\$1.25
Fig. 71—1/2, 3/4 or 1-inch pipe connection.....			\$0.95
Fig. 71—1 1/4-inch iron pipe connection.....			1.60



GOULDS SPRAY FITTINGS

- Fig. 54—Stop-cock, with stuffing box, 1/4-inch female pipe thread cut both ends..... \$0.85
 Fig. 1273—Funnel and strainer..... 2.65
 Fig. 67—Coupling, one end cut 1/4-inch pipe thread, other end shank to wire into hose; 1/4-inch pipe, 3/8-inch hose .25
 Fig. 67—Same as above, but 1/4-inch pipe, 1/2-inch hose..... .25
 Fig. 1092—Brass shut-off discharge connection..... 1.70

Figure	504	504	504	504	504
Size, inches	3/8	1/2	3/4	1	1 1/4
Per dozen	\$5.75	\$6.25	\$4.50	\$9.50	\$11.25
Female half	3.85	4.15	3.00	6.35	7.50

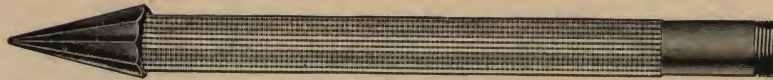
- Fig. 1186—Discharge and shut-off..... \$2.25
 Fig. 49 1/2—Female thread on inlet..... .60
 Fig. 49—Brass Y, 3/4 or 1-inch thread inlet and 1/2 or 3/4-inch thread lateral discharge..... .60
 Fig. 1074 1/2—Brass Y, tapped to fit 1/4-inch pipe at butt, adapted to fit Figs. 65 and 67 couplings for hose..... .40
 Fig. 89— 1/2 or 3/4-inch hose, 3/4-inch iron pipe..... .30
 1/2 or 3/4-inch hose, 1 -inch iron pipe..... .30
 1/2 or 3/4-inch hose, 1 1/4-inch iron pipe..... .60
 1 -inch hose, 1 -inch iron pipe..... .60
 1 -inch hose, 1 1/4-inch iron pipe..... .60
 1 1/4-inch hose, 1 1/4-inch iron pipe..... .60
 Fig. 1074—Brass Y, tapped 1/4-inch pipe thread at butt..... .40
 Fig. 1507—Swivel elbow, threaded both ends for 1/4-inch gas pipe..... .95
 Fig. 65—Coupling, small end cut 1/4-inch pipe thread; large end cut to fit 1/2 or 3/4-inch male half hose coupling..... .20
 Fig. 30 1/2—Pressure gauge for 300 pounds. Cut for 1/4-inch pipe..... 3.75

Figure	1272	1272	1272	1272
Size, inches	1/2	3/4	1	1 1/4
Per dozen	\$0.75	\$0.75	\$2.25	\$2.80

- Fig. 90—Brass nipples, one end cut 3/4-inch female pipe thread, other end 1/2-inch or 3/4-inch hose thread.
 3/4-inch pipe, 1/2-inch hose..... \$0.35
 3/4-inch pipe, 3/4-inch hose..... .35
 Fig. 1107—60-degree elbow, thread both ends, 1/4-inch pipe..... .20



Common



3776 N

Washer



3777 N

BRASS JACKET AND WASHER DRIVE WELL POINTS, PLATE 3776 N AND PLATE 3777 N

Diameter, Pipe, Inches	Length of Point, Inches	Length of Jacket, Inches	No. 60 Gauze, per Dozen	No. 80 Gauze, Per Dozen	No. 90 Gauze, per Dozen	Diameter, Pipe, Inches	Length of Point, Inches	Length of Jacket, Inches	No. 60 Gauze, per Dozen	No. 80 Gauze, Per Dozen	No. 90 Gauze, per Dozen
1	24	18	\$ 33.00	\$ 46.00	\$ 52.00	1 1/2	72	66	\$144.00	\$185.00	\$222.00
1	30	24	42.00	56.00	64.00	2	24	18	75.00	94.00	110.00
1	42	36	60.00	76.00	88.00	2	30	24	90.00	112.00	132.00
1 1/4	20	14	30.00	42.00	50.00	2	36	30	105.00	130.00	154.00
1 1/4	24	18	36.00	52.00	60.00	2	42	36	120.00	148.00	176.00
1 1/4	30	24	46.00	64.00	75.00	2	48	42	135.00	166.00	198.00
1 1/4	36	30	56.00	76.00	90.00	2	60	54	165.00	202.00	242.00
1 1/4	42	36	66.00	88.00	105.00	2 1/2	36	30	180.00	230.00	260.00
1 1/4	48	42	76.00	100.00	120.00	2 1/2	48	42	230.00	300.00	340.00
1 1/2	24	18	48.00	65.00	78.00	2 1/2	72	66	330.00	440.00	500.00
1 1/2	30	24	60.00	80.00	96.00	3	36	30	240.00	310.00	340.00
1 1/2	36	30	72.00	95.00	114.00	3	48	42	300.00	390.00	430.00
1 1/2	42	36	84.00	110.00	132.00	4	48	36	480.00	560.00	600.00
1 1/2	48	42	96.00	125.00	150.00	4	72	60	630.00	760.00	840.00
1 1/2	66	60	132.00	170.00	204.00	4	96	84	780.00	960.00	1,080.00

Tubular



3778 N

BRASS JACKET TUBULAR WELL POINT, PLATE 3778 N

Diameter, Pipe, Inches	Length of Point, Inches	Length of Jacket, Inches	No. 60 Gauze, Per Dozen	No. 80 Gauze, Per Dozen	No. 90 Gauze, Per Dozen	Diameter, Pipe, Inches	Length of Point, Inches	Length of Jacket, Inches	No. 60 Gauze, Per Dozen	No. 80 Gauze, Per Dozen	No. 90 Gauze, Per Dozen
1	30	18	\$34.00	\$45.00	\$ 50.00	1 1/4	42	30	\$ 61.00	\$ 80.00	\$ 95.00
1	36	24	43.00	55.00	62.00	1 1/4	42	36	66.00	88.00	105.00
1	42	30	52.00	65.00	74.00	1 1/4	48	36	71.00	92.00	110.00
1	60	42	74.00	90.00	104.00	1 1/4	54	36	76.00	97.00	112.00
1 1/4	24	18	36.00	52.00	60.00	1 1/4	60	36	81.00	102.00	120.00
1 1/4	36	24	51.00	68.00	80.00	1 1/4	54	42	81.00	104.00	125.00
1 1/4	42	24	56.00	73.00	85.00	1 1/4	72	48	101.00	127.00	150.00
1 1/4	36	30	56.00	76.00	90.00						



3779 N

OPEN-END OR WELL POINT EXTENSIONS, PLATE 3779 N

Price on open end extensions same as Plate 3776 N, brass jacket drive well points, shown above.

MALLEABLE IRON DRIVE CAPS, PLATE 3780 N

Size pipe, inches.....	1 1/4	1 1/2	2	2 1/2	3	4
Each	\$0.20	\$0.24	\$0.44	\$1.00	\$1.25	\$1.50

STEEL DRIVE HEADS, PLATE 3781 N

Size pipe, inches.....	1 1/4	1 1/2	2	2 1/2	3	4
Each	\$1.50	\$2.00	\$2.50	\$6.00	\$9.00	\$16.00



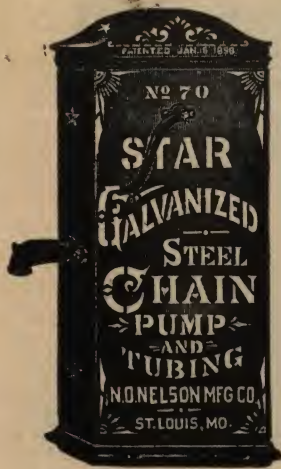
3780 N



3781 N



Galvanized iron curb



3782 N

Galvanized iron curb in operation



3783 N

Reservoir tubing



3784 N

Funnel end tubing



3785 N

Plain tubing



3786 N

GALVANIZED IRON CURBS, PLATE 3782 N

No. 70—Galvanized iron pump curbs, with fixtures, per dozen\$48.00

Weight per dozen, 660 pounds.

GALVANIZED IRON TUBING, PLATE 3784 N TO PLATE 3786 N

24-Gauge Iron.

Reservoir tubing, in lengths of 5, 6, 7, 8, 9 and 10 feet, per foot\$0.12
 Funnel end tubing, in lengths of 6, 8 and 10 feet, per foot12
 Plain tubing, used in cisterns and wells where depth is greater than 19 feet, made in lengths of 8 and 10 feet, per foot12

Price of tubing is without couplings.

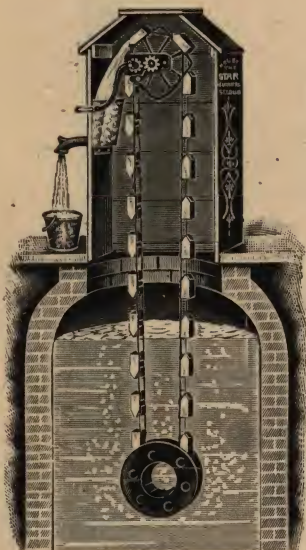
TUBING COUPLINGS, PLATE 3787 N

Couplings, per set\$0.30

Tubing couplings



3787 N



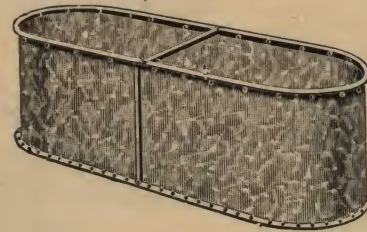
3788 N

KONCO WATER ELEVATOR AND PURIFIER, PLATE 3788 N

No. 1 curb, with japanned fixtures, complete, each \$5.50
 No. 1 curb, with galvanized fixtures, complete, each 6.50
 Galvanized bucket chain, per foot30
 Fixtures only, complete, japanned, per set 3.00
 Fixtures only, complete, galvanized, per set 4.00



3789 N



3790 N

ROUND GALVANIZED TANK, PLATE 3789 N

For stock watering and storage. Shipped set up.

These tanks can be shipped set up, ready for use, in a box car.

Prices on special sizes quoted on application. All prices are based on tanks as made of No. 20 galvanized steel. If No. 18 metal is wanted, add 30 per cent; if No. 16 is wanted, add 60 per cent to list price.

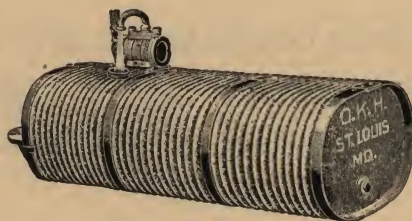
Diameter, Feet	Height, Feet	Capacity, Barrels	Weight, Pounds	Each	Diameter, Feet	Height, Feet	Capacity, Barrels	Weight, Pounds	Each
3	2	3	52	\$ 8.20	5	3	13	120	\$17.40
4	2	5	75	10.50	5½	2	10½	115	15.00
4	2½	7	85	12.00	5½	2½	13¼	130	17.50
4	3	8	95	13.60	5½	3	15¾	145	20.00
4½	2	7	86	11.80	6	2	12½	123	17.00
4½	2½	8¾	99	13.50	6	2½	15¾	138	19.60
4½	3	10½	111	15.20	6	3	19	153	22.20
5	2	8½	98	13.30	6½	2	14¾	135	19.20
5	2½	10¾	108	15.30	6½	2½	18½	151	21.90

ROUND END OBLONG TANK, PLATE 3790 N

The following sizes are shipped set up ready for use.

Prices on special sizes quoted on application. All prices are based on tanks as made of No. 20 galvanized steel. If No. 18 metal is wanted, add 30 per cent; if No. 16 is wanted, add 60 per cent to list price.

Width	Height	Length	Capacity	Each	Width	Height	Length	Capacity	Each
2 feet	2 feet	4 feet	3 barrels	\$ 8.40	3 feet	2½ feet	10 feet	15½ barrels	\$26.40
2 feet	2 feet	5 feet	3¾ barrels	10.10	3 feet	2½ feet	12 feet	18¾ barrels	31.40
2 feet	2 feet	6 feet	4½ barrels	11.80	4 feet	2 feet	8 feet	12¾ barrels	21.60
2 feet	2 feet	7 feet	5½ barrels	13.50	4 feet	2 feet	10 feet	16¼ barrels	26.20
2 feet	2 feet	8 feet	6¼ barrels	15.20	4 feet	2 feet	12 feet	20 barrels	31.00
2 feet	2 feet	10 feet	8 barrels	18.60	4 feet	2 feet	14 feet	23½ barrels	35.60
2 feet	2½ feet	4 feet	3¾ barrels	9.40	4 feet	2 feet	16 feet	27¼ barrels	40.20
2 feet	2½ feet	5 feet	4¾ barrels	11.40	4 feet	2½ feet	8 feet	15¾ barrels	24.70
2 feet	2½ feet	6 feet	5¾ barrels	13.40	4 feet	2½ feet	10 feet	20½ barrels	29.90
2 feet	2½ feet	7 feet	7 barrels	15.40	4 feet	2½ feet	12 feet	25 barrels	35.30
2 feet	2½ feet	8 feet	8 barrels	17.40	4 feet	2½ feet	14 feet	29½ barrels	40.50
2 feet	2½ feet	10 feet	10¼ barrels	21.40	4 feet	2½ feet	16 feet	34 barrels	45.70
2½ feet	2 feet	8 feet	8 barrels	17.00	4 feet	3 feet	8 feet	19 barrels	27.80
2½ feet	2 feet	10 feet	10¼ barrels	20.80	4 feet	3 feet	10 feet	24½ barrels	33.60
2½ feet	2½ feet	8 feet	10 barrels	19.80	4 feet	3 feet	12 feet	30 barrels	39.60
3 feet	2 feet	6 feet	7 barrels	14.50	4 feet	3 feet	14 feet	35½ barrels	45.40
3 feet	2½ feet	8 feet	12 barrels	21.60					



3791 N

GALVANIZED WAGON TANK, PLATE 3791 N

Galvanized for life and corrugated for strength; our extra banded steel wagon tank is made of No. 16 gauge steel in heads and the shell is corrugated and made of No. 20 gauge steel. These tanks are so constructed that no extra expense for frame support is necessary, as they can be laid in a wagon bed or on any flat surface. These tanks we make with 14-inch manhole, which is placed in center unless otherwise ordered. A two-inch threaded opening and plug is placed in the rear head close to bottom. Prices do not include pump.

No.	Width	Height	Length	Capacity	Each	No.	Width	Height	Length	Capacity	Each
No. 342	3 ft.	22 in.	6 ft., 0 in.	7 barrels	\$30.00	No. 347	3 ft., 2 in.	27 in.	9 ft., 8 in.	14½ barrels	\$43.00
No. 343	3 ft.	22 in.	8 ft., 0 in.	9 barrels	36.00	No. 348	3 ft., 6 in.	30 in.	6 ft., 0 in.	10 barrels	37.00
No. 344	3 ft.	22 in.	9 ft., 8 in.	11 barrels	38.00	No. 349	3 ft., 6 in.	30 in.	8 ft., 0 in.	14 barrels	41.00
No. 345	3 ft., 2 in.	27 in.	6 ft., 0 in.	9 barrels	34.00	No. 350	3 ft., 6 in.	30 in.	9 ft., 8 in.	17 barrels	52.00
No. 346	3 ft., 2 in.	27 in.	8 ft., 0 in.	12 barrels	37.50						



3792 N

**PERFECT METAL BILGE BARREL,
PLATE 3792 N**

This barrel is made of finest open hearth steel, 13 gauge throughout. The chime is strong and firm. It is composed of the outer shell, the flange of the head and a special heavy steel protecting rim rolled firmly into place in such a way that it is impossible to detach it.

Capacity, gallons	30	55
Black, each	\$ 8.00	\$ 9.50
Galvanized, each	11.00	13.50

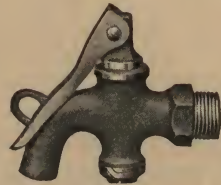


3793 N

NESCO STEEL BARREL, PLATE 3793 N

This barrel has chime hoops, with separate rolling hoops shrunk on, and with bung in shell, vent in head; 16-gauge steel.

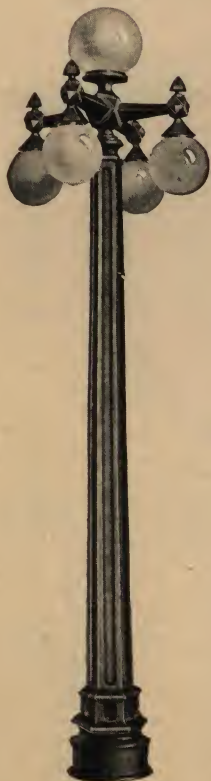
Capacity, gallons	55
Japanned, each	\$ 7.50
Galvanized, each	11.00



3794 N

**LOCK-LEVER TANK BIBBS, PLATE 3794 N
(Iron Pipe.)**

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Plain, rough, per dozen.....	\$17.40	\$18.60	\$25.80	\$30.60	\$42.00	\$70.20	\$105.00
Plain, finished, per dozen.....	21.60	22.80	30.60	36.60	51.00	82.20	123.00
Hose, rough, per dozen.....	19.80	21.00	28.20	33.00	48.00	79.20	117.00
Hose, finished, per dozen.....	24.00	25.20	33.00	39.00	57.00	91.20	135.00



3795 N

STREET LIGHTING PEDESTAL, PLATE 3795 N

NESCO cast iron street lighting pedestals for five globes. The very best grade of gray iron is used in our manufacture of these pedestals and our manner of construction is as nearly perfect as possible, it being impossible for water to penetrate the globes and inside of the pedestal.

Dimensions

Diameter of base at ground line, 19 inches; diameter of shaft at bottom, $9\frac{1}{2}$ inches; diameter of shaft at top, $6\frac{1}{2}$ inches; spread of arms—center to center of opposite side globes—32 inches; spread of arms at extreme points, 36 inches; size of side globes, diameter 12 inches; size of central globe, diameter 16 inches; size of door in base, 4x8 inches; height from ground to top of central globe, 13 feet 9 inches.

1 light, less globe.....	\$49.00
2 lights, less globes.....	68.00
5 lights, less globes.....	78.00



1484 N

DIAMOND LAG SCREW EXPANSION BOLTS, PLATE 1484 N
With Square Head Bolts

Diameter of lag screw, inches	1/4	5/16	3/8	1/2	5/8	3/4	7/8
2 inches long, per hundred	\$10.85	\$11.65	\$15.90	\$24.15	\$31.70	\$48.30	\$48.30
2 1/2 inches long, per hundred	11.00	11.85	15.90	24.15	31.70	48.30	48.30
3 inches long, per hundred	11.25	12.00	16.10	24.45	32.10	48.85	48.85
4 inches long, per hundred	11.50	12.35	16.40	25.35	32.90	50.00	50.00
5 inches long, per hundred	11.85	12.65	16.90	25.90	33.75	51.05	51.05
6 inches long, per hundred	12.20	13.00	17.35	26.45	34.60	52.20	68.90
7 inches long, per hundred	13.30	17.65	27.00	35.40	53.30	70.00	70.00
8 inches long, per hundred	.....	18.00	27.55	36.25	54.45	71.10	71.10

Shields Only

Diameter of lag screw, inches	1/4	5/16	3/8	1/2	5/8	3/4	7/8
Length of shield, long standard, inches	1 1/2	2	2 3/4	3 1/2	3 1/2	3 1/2	5
Length of shield, short standard, inches	.....	.....	2	2	2	.....	.....
Outside diameter of shield, inches	7/16	1/2	5/8	3/4	7/8	1	1 1/4
Diameter of drill required, inches	7/16	1/2	5/8	3/4	7/8	1	1 1/4
Per hundred	\$ 9.40	\$10.50	\$12.35	\$22.00	\$27.80	\$39.95	\$53.30

Shields are malleable iron.

BRASS EXPANSION BOLTS, PLATE 1485 N AND PLATE 1486 N

Diameter, inches	1/4	5/16	3/8
1 1/4 inches long, per hundred	\$12.00	\$14.00	\$14.00
1 1/2 inches long, per hundred	12.50	14.00	22.00
1 3/4 inches long, per hundred	13.00	14.50	22.00
2 inches long, per hundred	13.50	15.50	22.75
2 1/2 inches long, per hundred	15.75	18.25	24.00
3 inches long, per hundred	17.50	20.75	26.00
Length of nuts and jaw, inches	1	1 1/8	1 1/2
Size hole for expansion, inches	7/16	1/2	5/8



1485 N



1486 N



1487 N

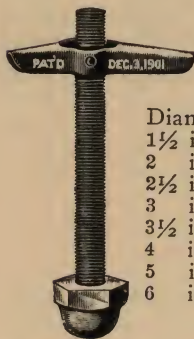
BRASS EXPANSION BOLTS, PLATE 1487 N

1/4-inch diameter.

1 1/2 inches long, per hundred	\$17.50
1 3/4 inches long, per hundred	18.00
2 inches long, per hundred	18.50
2 1/2 inches long, per hundred	19.50
3 inches long, per hundred	20.50
3 1/2 inches long, per hundred	21.50

STEEL, TOGGLE OR ANCHOR BOLTS, PLATE 1488 N TO PLATE 1490 N

Diameter, inches	3/16	1/4	5/16	3/8	7/16	1/2
1 1/2 inches long, per hundred	\$3.65	\$5.00	\$7.75	\$9.50	.....	.....
2 inches long, per hundred	3.75	5.00	7.75	9.50	.....	.....
2 1/2 inches long, per hundred	3.85	5.12	7.75	9.50	.....	.....
3 inches long, per hundred	4.00	5.25	8.00	10.00	.....	.....
3 1/2 inches long, per hundred	4.15	5.50	8.50	10.25	.....	.....
4 inches long, per hundred	4.25	5.75	9.00	10.50	12.00	14.00
5 inches long, per hundred	4.40	6.00	9.50	11.50	12.50	14.50
6 inches long, per hundred	4.50	6.50	10.00	12.00	13.00	15.00



1488 N



1489 N



1490 N

BRASS TOGGLE OR ANCHOR BOLTS, PLATE 1488 N TO PLATE 1490 N

Diameter, inches	1/4
Length, inches	4
Plate 1488 N, all brass with nickel plated brass nut, per hundred	\$20.00
Plate 1489 N and Plate 1490 N, all brass, per hundred	17.00

Other sizes can be furnished on request.

STAR LEAD SCREW ANCHOR, PLATE 1491 N

Anchor number and length, inches	Anchor diameter outside, inches	Diameter of drill used, inches	Anchors fit Screws numbers	Anchors only, per hundred
6 x 1/2	1/4	1/4	5, 6, 7 or 8	\$4.40
6 x 3/4	1/4	1/4	5, 6, 7 or 8	4.40
10 x 3/4	5/16	5/16	9, 10 or 11	5.00
10 x 1	5/16	5/16	9, 10 or 11	5.00
10 x 1 1/8	5/16	5/16	9, 10 or 11	5.00
14 x 1	3/8	3/8	12, 13 or 14	6.25
14 x 1 1/2	3/8	3/8	12, 13 or 14	6.75





**3790 GN
HEXAGON HEAD CAP SCREWS, PLATE 3790 GN**

Diameter of screw..	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4
Length under head to extreme point.	3/4	\$3.00	\$3.25	\$3.75	\$ 4.50	\$ 5.70	.....	.....	.....	.....	.....
3/8	3.15	3.40	3.90	4.70	5.80	.....	.....	.....	.....	.....	.....
1	3.25	3.50	4.00	4.90	5.90	\$ 9.25	\$ 9.25	.....	.....	.....	.....
1 1/4	3.50	3.75	4.25	5.30	6.50	9.50	9.50	\$12.50	.....	.....	.....
1 1/2	3.75	4.00	4.50	5.70	7.10	10.00	10.00	13.50	\$18.40	.....	.....
1 3/4	4.00	4.25	4.85	6.10	7.70	10.75	10.75	14.50	19.70	\$22.75	.....
2	4.25	4.85	5.20	6.50	8.30	11.50	11.50	15.50	21.00	25.00	\$34.00
2 1/4	4.70	5.35	5.55	7.15	8.90	12.60	12.60	16.50	22.40	27.25	36.75
2 1/2	5.25	5.80	6.00	7.50	9.50	13.60	13.60	17.50	23.70	29.50	39.50
2 3/4	5.75	6.30	6.65	7.90	10.10	14.40	14.40	19.00	25.00	31.75	42.25
3	6.25	6.80	7.20	8.40	10.70	15.20	15.20	20.60	26.40	34.00	45.00
3 1/4	.....	.....	.....	9.15	11.50	16.00	16.00	22.10	28.20	36.25	47.75
3 1/2	.....	.....	.....	9.75	12.30	17.30	17.30	23.70	30.00	38.50	50.50
3 3/4	.....	.....	.....	10.50	13.10	18.60	18.60	25.30	31.80	40.75	53.25
4	.....	.....	.....	11.10	13.90	19.90	19.90	26.90	33.60	43.00	56.00
4 1/4	.....	.....	.....	.....	.....	.....	.....	21.20	28.50	35.40	45.25
4 1/2	.....	.....	.....	.....	.....	.....	.....	22.50	30.10	37.20	47.50
4 3/4	.....	.....	.....	.....	.....	.....	.....	31.70	39.00	49.75	64.25
5	.....	.....	.....	.....	.....	.....	.....	40.80	52.00	67.00	80.50
Threads to inch.....	20	18	16	14	12	12	11	10	9	8	7
Add for each 1/4 inch.	\$0.40	\$0.50	\$0.60	\$0.70	\$0.80	\$1.30	\$1.30	\$1.60	\$1.80	\$2.25	\$2.75



3790 HN



3790 IN

**ROUND AND FILLISTER HEAD CAP SCREWS,
PLATE 3790 HN AND PLATE 3790 IN**

Price per 100.

Diameter of Screw	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Length under head to extreme point.	3/4	\$2.00	\$2.25	\$2.50	\$3.00	\$3.50	\$4.00	\$5.00	.....	.....	.....
1	2.25	2.50	2.75	3.25	3.75	4.25	5.30	6.60	.....	.....	.....
1 1/4	2.50	2.75	3.00	3.50	4.00	4.50	5.60	6.90	\$9.00	.....	.....
1 1/2	2.75	3.00	3.25	3.75	4.25	4.75	5.90	7.20	9.50	\$12.00	.....
1 3/4	3.00	3.25	3.50	4.00	4.50	5.00	6.20	7.50	10.00	12.50	\$15.25
2	3.25	3.50	3.75	4.35	5.00	5.50	6.75	8.00	10.75	13.00	16.00
2 1/4	3.50	3.75	4.00	4.75	5.50	6.00	7.25	8.50	11.50	13.75	16.75
2 1/2	3.75	4.00	4.25	5.15	6.00	6.50	7.75	9.00	12.00	14.50	17.50
2 3/4	4.00	4.25	4.50	5.55	6.50	7.00	8.25	9.50	12.75	15.25	18.30
3	4.25	4.50	4.75	5.95	7.00	7.50	8.75	10.00	13.50	16.00	19.10
3 1/4	.....	.....	.....	6.35	7.50	8.00	9.25	10.50	14.25	16.75	20.00
3 1/2	.....	.....	.....	8.00	9.00	9.75	11.00	12.50	17.50	20.00	24.85
3 3/4	.....	.....	.....	9.00	10.25	11.50	13.00	14.75	21.00	23.00	28.10
4	.....	.....	.....	10.75	12.00	13.50	15.25	17.00	22.00	24.00	29.35
4 1/4	.....	.....	.....	.....	.....	.....	.....	.....	25.00	27.00	32.60
4 1/2	.....	.....	.....	.....	.....	.....	.....	.....	26.00	28.00	33.60
4 3/4	.....	.....	.....	.....	.....	.....	.....	.....	27.00	29.00	34.60
5	.....	.....	.....	.....	.....	.....	.....	.....	28.00	30.00	35.60
Threads to inch.	40	24	20	18	16	14	12	12	11	10	9
Add for each 1/4 inch.	\$0.25	\$0.25	\$0.25	\$0.40	\$0.50	\$0.50	\$0.50	\$0.50	\$0.75	\$0.75	\$1.00



3790 KN



3790 LN

FLAT HEAD CAP SCREWS, PLATE 3790 KN

Price per 100.

Diameter of screw	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Length over all.	3/4	\$2.25	\$2.50	\$3.10	\$4.00	\$5.00	.....	.....	.....
1	2.50	2.75	3.35	4.25	5.30	6.60	.....	.....	.....
1 1/4	2.75	3.00	3.60	4.50	5.60	6.90	\$9.00	.....	.....
1 1/2	3.00	3.25	3.85	4.75	5.90	7.20	9.50	\$12.00	.....
1 3/4	3.25	3.50	4.10	5.00	6.20	7.50	10.00	12.50	\$14.50
2	.....	3.75	4.35	5.50	6.75	8.00	10.75	13.00	15.25
2 1/4	.....	4.75	5.00	6.00	7.25	8.50	11.50	13.75	16.00
2 1/2	.....	.....	6.50	7.75	9.00	12.00	14.50	16.75	21.25
2 3/4	.....	.....	7.00	8.25	9.50	12.75	15.25	17.50	22.40
3	.....	.....	8.75	10.00	13.50	16.00	18.30	22.60	28.60
Threads to inch	40	24	20	18	16	14	12	12	11
Add for ea. 1/4 in.	\$0.25	\$0.25	\$0.40	\$0.50	\$0.50	\$0.50	\$0.50	\$0.75	\$1.00

BUTTON HEAD CAP SCREWS, PLATE 3790 LN

Price per 100.

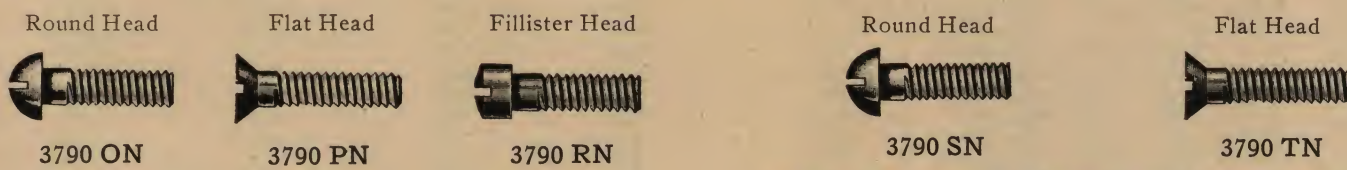
Diameter of screw	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Length under head to extreme point.	3/4	\$2.25	\$2.50	\$3.00	\$3.50	\$4.00	\$5.00	.....	.....
1	2.50	2.75	3.25	3.75	4.25	5.30	6.60	.....	.....
1 1/4	2.75	3.00	3.50	4.00	4.50	5.60	6.90	\$ 9.00	.....
1 1/2	3.00	3.25	3.75	4.25	4.75	5.90	7.20	9.50	\$12.00
1 3/4	3.25	3.50	4.00	4.50	5.00	6.20	7.50	10.00	12.50
2	.....	3.75	4.35	5.00	5.50	6.75	8.00	10.75	13.00
2 1/4	.....	4.75	5.00	6.00	7.25	8.50	11.50	13.75	16.00
2 1/2	.....	.....	6.00	7.00	8.25	9.50	12.00	14.50	17.50
2 3/4	.....	.....	7.00	8.25	9.50	12.75	15.25	17.50	21.25
3	.....	.....	8.75	10.00	13.50	16.00	18.30	22.60	28.60
Threads to inch	40	24	20	18	16	14	12	12	11
Add for ea. 1/4 in.	\$0.25	\$0.25	\$0.40	\$0.50	\$0.50	\$0.50	\$0.50	\$0.75	\$1.15



3790 MN

IRON SET SCREWS, PLATE 3790 MN

		Price per 100.												
Diameter of screw..		¼	⅜	½	⅝	¾	⅞	1	1 ¼	1 ½	1 ¾	2		
Length under head to extreme point.	½	\$1.80	\$2.00	\$2.35	.....	.....	.....	.....	.....	.....	.....	.....	.....
	⅝	1.90	2.10	2.45	\$2.80	\$3.30	.....	.....	.....	.....	.....	.....	.....
	¾	2.00	2.20	2.50	2.90	3.40	\$5.00	\$5.00	.....	.....	.....	.....	.....
	⅞	2.10	2.30	2.60	3.00	3.60	5.50	5.50	.....	.....	.....	.....	.....
	1	2.15	2.35	2.65	3.10	3.80	5.75	5.75	\$10.00	.....	.....	.....	.....
	1 ¼	2.30	2.50	2.85	3.50	4.30	6.50	6.50	11.00	\$15.50	.....	.....	.....
	1 ½	2.50	2.70	3.10	4.00	4.80	7.25	7.25	12.00	16.20	\$22.00	.....	.....
	1 ¾	2.75	3.00	3.50	4.50	5.40	8.00	8.00	12.80	17.70	24.00	\$41.70	.....
	2	3.25	3.50	4.00	5.15	6.00	8.80	8.80	13.60	19.20	26.00	45.00	\$54.00	
	2 ¼	3.75	4.00	4.50	5.75	6.75	9.60	9.60	14.50	20.70	28.00	48.30	58.30	
	2 ½	4.25	4.50	5.00	6.35	7.50	10.40	10.40	15.40	22.20	30.00	51.60	62.60	
	2 ¾	4.75	5.00	5.50	6.75	8.25	11.20	11.20	16.30	23.70	32.00	54.90	66.90	
	3	5.25	5.50	6.00	7.20	9.00	12.00	12.00	17.30	25.20	34.00	58.20	71.20	
	3 ¼	.....	.....	.....	7.60	9.75	12.75	12.75	18.40	26.70	36.00	61.50	75.50
	3 ½	.....	.....	.....	8.00	10.50	13.50	13.50	19.50	28.20	38.00	64.80	79.80
	3 ¾	.....	.....	.....	8.50	11.25	14.30	14.30	20.75	29.70	40.00	68.10	84.10
	4	.....	.....	.....	9.00	12.00	15.10	15.10	22.00	31.20	42.00	71.40	88.40
	4 ¼	15.90	23.50	32.70	44.00	74.70	92.70
	4 ½	16.70	25.00	34.20	46.00	78.00	97.00
	4 ¾	26.50	35.70	48.00	81.30	101.30
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	37.20	50.00	84.60	105.60
Threads to inch..	20	18	16	14	12	12	11	10	9	8	7	7	7	
Add for each ¼ in..	\$0.50	\$0.60	\$0.70	\$0.80	\$0.90	\$1.10	\$1.10	\$1.50	\$1.70	\$2.25	\$3.30	\$4.30		

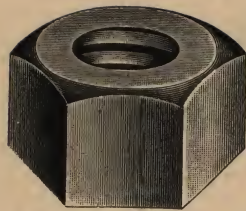


IRON MACHINE SCREWS, PLATE 3790 ON TO PLATE 3790 RN

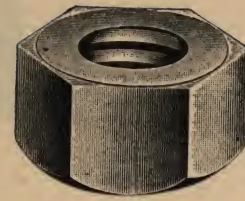
BRASS MACHINE SCREWS, PLATE 3790 SN AND PLATE 3790 TN

Nos.	Per gross.										
	2	3	4	6	8	10	12	14	16	20	24
Threads	56	48	36 and 40	32	32	24 and 32	24	20 and 24	18 and 20	16 and 18	16
Lengths	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
½	30	30	30	35	40	...	...	...	...	...	...
⅜	30	30	30	35	40	60	...	...	...	...	...
¼	30	30	30	35	40	60	70	85	...	...	...
⅝	32	32	32	37	44	65	75	90	115	...	...
¾	32	32	32	37	44	65	75	90	115	190	230
⅞	34	34	34	39	48	70	80	95	120	200	240
1	34	34	34	39	48	70	80	95	120	200	240
1 ¼	37	37	37	42	52	75	85	100	125	210	250
1 ½	37	37	37	42	52	75	85	100	125	210	250
1 ¾	41	41	41	46	56	80	90	105	130	220	260
2	45	45	45	50	60	85	95	115	140	230	270
2 ¼	..	..	50	55	65	90	100	125	150	240	280
2 ½	..	..	55	60	70	100	110	135	160	260	300
2 ¾	..	..	60	65	75	110	120	145	175	280	320
3	..	..	65	70	80	120	130	155	190	300	340
3 ¼	..	..	70	75	85	130	140	165	210	320	360
3 ½	..	..	90	95	105	150	160	185	250	360	420
3 ¾	..	..	110	115	125	170	180	220	290	400	460

Nos.	Per gross.										
	2	3	4	6	8	10	12	14	16	20	24
Threads	56	48	36 and 40	32	32	24 and 32	24	20 and 24	18 and 20	16 and 18	16
Lengths	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
½	32	32	36	46	70	...	...	...	...	...	...
⅜	32	32	36	46	70	100	...	...	...	...	...
¼	32	32	36	46	70	100	125	165	...	...	...
⅝	34	34	38	49	75	105	135	175	...	...	...
¾	36	36	40	52	80	110	145	185	290	460	550
⅞	38	38	42	55	85	115	155	200	305	480	560
1	40	40	44	58	90	125	165	215	320	500	575
1 ¼	43	43	47	62	95	135	175	230	335	525	630
1 ½	46	46	50	66	100	145	185	245	350	550	650
1 ¾	52	52	56	74	110	165	205	275	380	600	670
2	58	58	62	82	120	185	225	305	410	650	740
2 ¼	..	..	70	90	130	205	245	335	440	700	850
2 ½	..	..	80	105	145	220	265	355	465	750	900
2 ¾	..	..	90	120	160	235	285	375	490	800	990
3	..	..	100	135	175	250	305	395	520	850	1150
3 ¼	..	..	110	150	190	265	325	415	550	900	1200
3 ½	..	..	140	190	230	305	375	465	620	1000	1270
3 ¾	..	..	170	230	270	345	425	515	700	1100	1350



3790 UN



3790 VN

HEXAGON NUTS, PLATE 3790 UN AND PLATE 3790 VN

Semi-finished, finished and case-hardened.

Revised list, adopted May 5th, 1911.

Size of Bolt	Number of Threads	Semi-Finished each	Finished Case-Hardened each	Size of Bolt	Number of Threads	Semi-Finished each	Finished Case-Hardened each
1/4	20	\$0.02	\$0.06	1 1/4	7	\$0.33	\$0.66
5/16	18	.025	.07	1 3/8	6	.49	.90
3/8	16	.0325	.08	1 1/2	6	.69	1.20
7/16	14	.0375	.09	1 5/8	5 1/2	.93	1.45
1/2	13 or 12	.045	.10	1 3/4	5	1.30	1.75
9/16	12	.055	.12	1 7/8	5	1.70	2.50
5/8	11	.065	.16	2	4 1/2	2.15	3.25
3/4	10	.085	.22	2 1/4	4 1/2	3.10	5.50
7/8	9	.12	.27	2 1/2	4	4.75	8.50
1	8	.175	.38	2 3/4	4	6.30	12.00
1 1/8	7	.24	.50	3	3 1/2	9.90	18.00

HOT PRESSED NUTS

Price per 100 pounds.

Short Diameter	Thickness	Hole	Size of Bolt	Square		Hexagon	
				Blank	Tapped	Blank	Tapped
1/2	1/4	3/16 scant	1/4	\$13.00	\$15.00	\$20.00	\$22.50
19/32	5/16	1/4 scant	5/16	12.00	13.50	18.00	20.00
1 1/16	3/8	19/64 scant	3/8	10.50	11.60	14.00	15.60
25/32	7/16	11/32	7/16	10.00	10.90	13.00	14.30
7/8	1/2	13/32 scant	1/2	9.00	9.70	11.20	12.20
31/32	9/16	29/64	9/16	9.00	9.60	11.20	12.20
1 1/16	5/8	33/64	5/8	8.70	9.20	11.20	12.10
1 1/4	3/4	5/8 scant	3/4	8.50	8.90	10.00	10.60
1 1/8	7/8	47/64 scant	7/8	8.40	8.80	9.90	10.60
1 5/8	1	27/32 scant	1	8.40	8.80	9.90	10.50
1 11/16	1 1/8	15/16 full	1 1/8	8.40	8.80	9.90	10.50
2	1 1/4	1 1/16 full	1 1/4	8.40	8.80	9.90	10.50
2 3/16	1 3/8	1 5/32 full	1 3/8	8.50	9.00	10.00	10.70
2 3/8	1 1/2	1 9/32 full	1 1/2	8.80	9.40	10.30	11.10
2 9/16	1 5/8	1 25/64 scant	1 5/8	9.00	9.70	10.50	11.40
2 3/4	1 3/4	1 1/2 scant	1 3/4	9.30	10.00	10.80	11.70
2 11/16	1 7/8	1 5/8 scant	1 7/8	9.50	10.30	11.00	12.00
3 1/8	2	1 23/32 scant	2	9.70	10.60	11.20	12.30
3 5/16	2 1/8	1 27/32 scant	2 1/8	10.00	11.00	11.70	12.90
3 1/2	2 1/4	1 31/32 scant	2 1/4	10.00	11.10	11.70	13.00
3 11/16	2 3/8	2 1/16	2 3/8	10.30	11.50	12.20	13.60
3 7/8	2 1/2	2 3/16	2 1/2	10.50	11.80	12.40	13.90
4 1/4	2 3/4	2 7/16	2 3/4	11.00	12.40	13.00	14.60
4 5/8	3	2 11/16	3	11.50	13.00	13.50	15.20

For less than keg lots (200 lbs.) of a size, add—20 cents per cwt. for 100 lbs. or over. 50 cents per cwt. for less than 100 lbs.



3790 WN

WROUGHT WASHERS, PLATE 3790 WN

Diameter	Size of Hole	Thickness Wire Gauge	Size of Bolt	Price per 100 pounds	Average Number in 100 lbs.	Diameter	Size of Hole	Thickness Wire Gauge	Size of Bolt	Price per 100 pounds	Average Number in 100 lbs.
9/16	1/4	No. 18	3/16	\$14.00	44,075	2 1/2	1 1/16	No. 9	1	\$ 9.00	617
3/4	5/16	No. 16	1/4	12.20	13,845	2 3/4	1 1/4	No. 9	1 1/8	9.00	516
7/8	3/8	No. 16	5/16	11.40	11,220	3	1 3/8	No. 9	1 1/4	9.20	403
1	7/16	No. 14	3/8	10.50	6,573	3 1/4	1 1/2	No. 8	1 3/8	9.20	320
1 1/4	1/2	No. 14	7/16	9.80	4,261	3 1/2	1 5/8	No. 8	1 1/2	9.20	278
1 3/8	9/16	No. 12	1/2	9.40	2,683	3 3/4	1 3/4	No. 8	1 5/8	9.50	247
1 1/2	5/8	No. 12	9/16	9.30	2,249	4	1 7/8	No. 8	1 3/4	9.50	224
1 3/4	11/16	No. 10	5/8	9.20	1,315	4 1/4	2	No. 8	1 7/8	9.50	200
2	1 3/16	No. 10	3/4	9.10	1,013	4 1/2	2 1/8	No. 8	2	9.50	180
2 1/4	1 5/16	No. 9	7/8	9.00	858						

For less than keg lots (200 lbs.) of a size, add—20 cents per cwt. for 100 lbs. or over. 50 cents per cwt. for less than 100 lbs.



LESCHEN'S "HERCULES" WIRE ROPE

(Reg. U. S. Pat. Office.)

Patent Flattened Strand

HOISTING ROPE, PLATE 3791 AN

6 strands of 25 wires each.

Diameter in Inches	Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load, Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
3/8	\$0.18 1/4	7.4	1.5	.25	2
1/2	.20 3/4	13.3	2.7	.45	2.75
5/8	.25	16	3.2	.58	3
3/4	.28	21	4.2	.72	3.50
7/8	.37 1/2	29	5.8	1.00	4
1	.49	39	7.8	1.33	4.50
1 1/8	.60	50	10.0	1.80	5
1 1/4	.71	62	12.4	2.30	6
1 1/2	.89	76	15.2	2.80	7
1 3/4	1.12	92	18.4	3.45	7.50
1 7/8	1.37	108	21.6	4.00	8
2	1.56	121	24.2	4.75	8.50
2 1/8	2.08	146	29.2	5.60	9
2 1/4	2.25	183	36.6	7.25	11
2 3/8	2.85	231	46.2	9.20	12
2 1/2	3.50	289	58	11.2	14
2 3/4	3.90	317	63.5	12.5	15
3	4.30	345	69	13.8	16

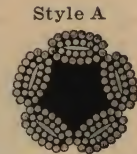


3791 AN

HOISTING ROPE, PLATE 3791 BN

5 strands of 28 wires each.

Diameter in Inches	Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load, Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
3/8	\$0.18 1/4	6.75	1.35	.22	2
1/2	.20 3/4	12.1	2.42	.39	2.75
5/8	.25	14.5	2.9	.50	3
3/4	.28	19	3.8	.62	3.50
7/8	.37 1/2	26.3	5.26	.89	4
1	.49	35	7	1.20	4.50
1 1/8	.60	45	9	1.58	5
1 1/4	.71	56	11.2	2.00	6
1 3/4	.89	69	13.8	2.45	7



3791 BN

HAULAGE ROPE, PLATE 3791 CN

6 strands of 8 wires each.

Diameter in Inches	Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load, Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
3/8	\$0.13 1/4	7	1.40	.25	2.75
1/2	.16 1/2	11.9	2.38	.45	3.75
5/8	.25	19	3.8	.72	4.50
3/4	.35	27	5.4	1.00	5.25
7/8	.44	36	7.2	1.33	6
1	.58	46	9.2	1.80	6.75
1 1/8	.70	56	11.2	2.30	8
1 1/4	.88	73	14.6	2.80	9.25
1 3/8	1.08	85	17	3.45	10
1 1/2	1.28	96	19	4.00	11



3791 CN

HAULAGE ROPE, PLATE 3791 DN

5 strands of 9 wires each.

Diameter in Inches	Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load, Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
3/8	\$0.13 1/4	6.50	1.3	.23	2.75
1/2	.16 1/4	11	2.2	.40	3.75
5/8	.25	17.50	3.5	.64	4.50
3/4	.35	25	5	.92	5.25
7/8	.44	33	6.6	1.24	6
1	.58	42	8.4	1.65	6.75
1 1/8	.70	52	10.4	2.05	8
1 1/4	.88	67	13.4	2.55	9.25
1 3/8	1.08	79	16	3.10	10
1 1/2	1.28	88	18	3.65	11



3791 DN

Round Strand

HOISTING ROPE, PLATE 3791 EN

6 strands of 19 wires each.

Diameter in Inches	Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load, Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
1/4	\$0.13	3.15	.63	.10	1
3/8	.13 1/2	4.50	.9	.15	1.25
1/2	.14 1/2	6.75	1.35	.22	1.50
5/8	.15 1/2	9.4	1.9	.30	1.75
3/4	.17	12.1	2.4	.39	2
7/8	.19	14.5	2.9	.50	2.25
1	.22 1/2	19	3.8	.62	2.50
1 1/8	.31	26.3	5.3	.89	3
1 1/4	.39	35	7	1.20	3.50
1 1/2	.50	45	9	1.58	4
1 3/8	.62	56	11	2	4.50
1 1/2	.75	69	14	2.45	5
1 5/8	.90	84	17	3	5.50
1 3/4	1.10	98	20	3.55	6
1 7/8	1.30	110	22	4.15	6.50
2	1.60	133	27	4.85	7
2 1/8	1.75	150	30	5.55	8
2 1/4	1.85	166	33	6.30	8
2 3/8	2.50	210	42	8	9
2 1/2	2.80	263	53	9.85	10
2 3/4	3.45	315	63	11.95	11

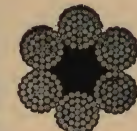


3791 EN

HOISTING ROPE, PLATE 3791 FN

6 strands of 37 wires each.

Diameter in Inches	Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load, Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
3/8	\$0.17 1/2	5.30	1.06	.22	1
1/2	.18 1/2	7.50	1.5	.30	1.15
5/8	.20	9.75	1.9	.39	1.33
3/4	.23	12.50	2.5	.50	1.50
7/8	.27	16	3.2	.62	1.75
1	.36	23	4.6	.89	1.83
1 1/8	.46	29	5.8	1.20	2.16
1 1/4	.59	37	7.4	1.58	2.50
1 3/8	.75	46	9.2	2	2.83
1 1/2	.86	58	11	2.45	3.20
1 5/8	1.05	71	14	3	3.50
1 3/4	1.25	84	17	3.55	3.75
1 7/8	1.45	95	19	4.15	.....
2	1.75	113	23	4.85	.....
2 1/8	2.10	137	27	6.30	.....
2 1/4	2.50	184	37	8	.....
2 3/8	3.15	225	45	9.85	.....
2 1/2	3.75	278	55	11.95	.....

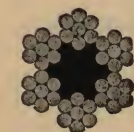


3791 FN

HAULAGE ROPE, PLATE 3791 GN

6 strands of 7 wires each.

Diameter in Inches	Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load, Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
3/8	\$0.08 3/4	6.50	1.3	.22	2.50
1/2	.11 1/2	7.75	1.5	.30	3
5/8	.13 1/2	11	2.2	.39	3.50
3/4	.17	13	2.6	.50	4
7/8	.20 1/2	17.50	3.5	.62	4.50
1	.24 1/2	20	4	.75	4.75
1 1/8	.28 1/2	25	5	.89	5
1 1/4	.37	33	6.6	1.20	6
1 3/8	.48	42	8.4	1.58	7
1 1/2	.58	52	10	2	8
1 3/4	.72	67	13	2.45	9
1 7/8	.88	79	16	3	10
2	1.05	90	18	3.55	11

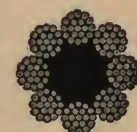


3791 GN

HOISTING ROPE, PLATE 3791 HN

8 strands of 19 wires each.

Diameter in Inches	Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load, Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
1/2	\$0.19	9.5	1.9	.35	1.33
5/8	.22	12	2.4	.45	1.5
3/4	.25	15	3	.56	1.75
7/8	.34	22	4.4	.80	1.83
1	.43	28	5.6	1.08	2.15
1 1/8	.55	36	7.2	1.42	2.5
1 1/4	.68	46	9.2	1.80	2.83
1 3/8	.82	56	11	2.20	3.2
1 1/2	.98	68	13	2.70	3.5
1 3/4	1.19	80	16	3.19	3.75

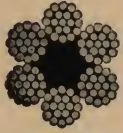


3791 HN

All Hercules wire rope is made with one RED strand.

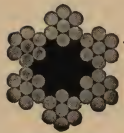


LESCHEN'S WIRE ROPE



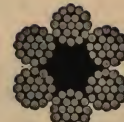
CAST STEEL ROPE, PLATE 3791 IN
Hoisting.
6 strands of 19 wires each.
3791 IN

Diameter in Inches	List Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load in Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
1/4	\$0.09	2.2	.44	.10	1
5/16	.09 1/4	3.1	.62	.15	1.25
3/8	.10	4.8	.96	.22	1.50
7/16	.11	6.5	1.30	.30	1.75
1/2	.12	8.4	1.68	.39	2
5/8	.14	10	2	.50	2.25
3/4	.17	12.5	2.5	.62	2.5
7/8	.24	17.5	3.5	.89	3
1	.31	23	4.6	1.20	3.5
1 1/8	.38	30	6	1.58	4
1 1/4	.46	38	7.6	2	4.5
1 1/2	.56	47	9.4	2.45	5
1 3/4	.66	56	11.2	3	5.5
1 7/8	.77	64	12.8	3.55	6
2	.90	72	14.4	4.15	6.5
2 1/8	1.02	85	17	4.85	7
2 1/4	1.16	96	19	5.55	8
2 1/2	1.44	106	21.2	6.30	8
2 3/4	1.75	133	26.6	8	9
3	2.10	170	34	9.85	10
3 1/2		211	42.2	11.95	11



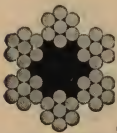
CAST STEEL ROPE, PLATE 3791 KN
Haulage and transmission.
6 strands of 7 wires each.
3791 KN

Diameter in Inches	List Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load in Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
9/32	\$0.04	2.5	.50	.12 1/2	1 1/2
5/16	.04 1/2	3.5	.70	.15	1 3/4
3/8	.05 1/2	4.5	.90	.22	2
7/16	.06 1/2	5.5	1.1	.30	2 1/4
1/2	.08	7.7	1.5	.39	2 1/2
5/8	.10	10	2	.50	3
3/4	.12	13	2.6	.62	3 1/2
7/8	.14 1/2	15.4	3.1	.75	4
1	.17	18.6	3.7	.89	4 1/2
1 1/8	.22 1/2	24	4.8	1.20	5
1 1/4	.29	31	6.2	1.58	5 1/2
1 1/2	.36	37	7.4	2	6
1 3/4	.43	46	9.2	2.45	7
1 7/8	.51	53	10.6	3	8
2	.60	63	12.6	3.55	9



IRON ELEVATOR ROPE, PLATE 3791 LN
Hoisting.
6 strands of 19 wires each.
3791 LN

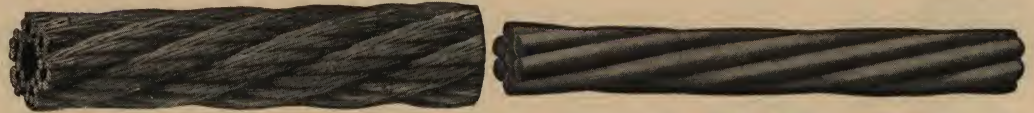
Diameter in Inches	List Price per Foot	Approx. Break. Strength, Tons of 2,000 lbs.	Usual Working Load in Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
1/4	\$0.06 1/2	1.1	.22	.10	1.50
5/16	.06 3/4	1.5	.30	.15	2
3/8	.07	2.4	.48	.22	2 1/4
7/16	.07 1/2	2.9	.58	.30	2 1/2
1/2	.08 1/2	3.9	.78	.39	3
5/8	.10	4.7	.94	.50	3 1/2
3/4	.12	6	1.20	.62	4
7/8	.16	8.5	1.70	.89	4 1/2
1	.20	11.8	2.36	1.20	5
1 1/8	.26	14.5	2.90	1.58	5 1/2
1 1/4	.33	18.6	3.72	2	6
1 1/2	.40	22.8	4.56	2.45	7



IRON ROPE, PLATE 3791 MN
Transmission and Standing.

3791 MN

Diameter in Inches	List Price per Foot	Approx. Breaking Tons of 2,000 lbs.	Usual Working Load in Tons of 2,000 lbs.	Approx. Weight per Foot	Diam. of Drum or Sheave in Feet Advised
9/32	\$0.03 1/4	1.2	.24	.12 1/2	3
5/16	.03 3/4	1.7	.34	.15 1/2	3.5
3/8	.04 1/2	2.2	.44	.22	4
7/16	.05 1/2	2.6	.52	.30	4.5
1/2	.06 1/2	3.7	.74	.39	5.5
5/8	.08 1/4	4.8	.96	.50	6
3/4	.10	6	1.2	.62	7
7/8	.12	7.3	1.5	.75	7.25
1	.14	8.8	1.7	.89	7.5
1 1/8	.18 1/2	12	2.4	1.20	9
1 1/4	.24	15	3	1.58	10.5
1 1/2	.30	19	3.8	2	12
1 3/4	.36	23	4.6	2.45	13



3791 ON

3791 PN

TILLER ROPE, PLATE 3791 ON

Diameter in Inches	List Price per Ft.		Approximate Weight per Foot
	Iron	Cast Steel	
1/4	\$0.07 1/2	\$0.11	.07
5/16	.08	.12 1/2	.11
3/8	.09	.14	.16
7/16	.10	.15	.21
1/2	.11 1/2	.17	.28
5/8	.14	.20	.35
3/4	.17	.24	.43
7/8	.22	.30	.62
1	.27	.36	.84
1 1/8	.33	.43	1.10
1 1/4	.39	.50	1.60
1 1/2	.45	.56	2.10

GALVANIZED WIRE STRAND, PLATE 3791 PN

This strand is composed of seven steel wires twisted into a single strand. For smokestack guys, electric light plants, street railways, signal cord, fencing and other purposes.

Diameter	Seven Wires No.	Approx. Weight per 1,000 Ft. (lbs.)	Approx. B. S. (lbs.)	List per 100 ft.
9/32	21	20	400	\$0.80
1/8	20	32	500	1.00
3/8	18	55	900	1.15
5/8	17	75	1,400	1.25
7/8	16	95	1,800	1.50
1	14	125	2,300	1.75
1 1/8	12	210	3,800	2.50
1 1/4	11	295	5,000	3.50
1 1/2	10	415	6,500	4.50
1 3/4	8	510	8,500	5.50

Intermediate sizes take next higher list.

Manila, hawser laid manila, sisal and hemp rope prices on application.



3791 QN
CLOSED SOCKETS, PLATE 3791 QN

Diameter of Rope in Inches	Iron or Steel Rope	
	Loose	Fastened
1/4	\$ 0.60	\$ 1.50
5/16	.65	1.55
3/8	.75	1.75
7/16	.80	1.95
1/2	1.00	2.15
5/8	1.10	2.35
3/4	1.35	2.65
7/8	1.80	3.30
1	2.50	4.50
1 1/8	3.50	5.55
1 1/4	4.00	6.85
1 1/2	6.00	9.50
1 3/4	6.50	10.75
1 7/8	9.00	14.00
2	10.00	16.00
2 1/4	16.00	24.00
2 1/2	24.00	33.50
2 3/4	26.00	37.00



3791 RN
OPEN SOCKETS, PLATE 3791 RN

Diameter of Rope in Inches	Iron or Steel Rope	
	Loose	Fastened
1/4	\$ 0.85	\$ 1.75
5/16	.90	1.80
3/8	1.20	2.20
7/16	1.25	2.40
1/2	1.60	2.75
5/8	1.70	2.95
3/4	2.10	3.40
7/8	2.70	4.20
1	3.40	5.40
1 1/8	4.50	6.75
1 1/4	5.00	7.85
1 1/2	8.00	11.50
1 3/4	8.50	12.75
1 7/8	11.50	16.50
2	12.50	18.50
2 1/4	22.00	30.00
2 1/2	34.00	43.50
2 3/4	37.00	48.00



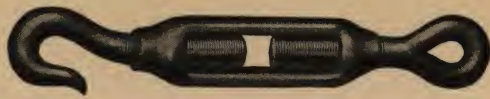
3791 SN

OVAL WIRE ROPE THIMBLES, PLATE 3791 SN

Extra heavy—galvanized.

Diam. of rope, in.	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Price, each in cents	8	9	10	11	12	13	15

Diam. of rope, in.	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8	2
Price, each in cents	15	16	20	25	33	42



3791 TN
TURNBUCKLES WITH HOOK AND EYE, PLATE 3791 TN

Diameter of Thread	Length of Thread	Price
3/16	3 1/2	\$0.80
1/4	4	.85
5/16	4 1/4	.90
3/8	4 1/2	1.10
7/16	5 1/4	1.25
1/2	6	1.55
5/8	9	2.00
3/4	9	2.75
7/8	12	3.50
1	12	4.25
1 1/8	12	5.25
1 1/4	12	6.25
1 1/2	15	9.00



3791 UN
WIRE ROPE CLIPS, PLATE 3791 UN
Drop-forged and double galvanized.

Diameter of Rope	Price	Diameter of Rope	Price
1/4	\$0.35	3/4	\$0.65
5/16	.35	7/8	.75
3/8	.40	1	.85
7/16	.45	1 1/8	.95
1/2	.45	1 1/4	1.10
5/8	.55	1 3/8	1.25
		1 1/2	1.50



3791 WN
ATLAS WIRE ROPE CLIPS,
PLATE 3791 WN

Diameter of Rope	Price	Diameter of Rope	Price
1/4	\$0.35	3/4	\$0.65
5/16	.35	7/8	.75
3/8	.40	1	.85
1/2	.45	1 1/8	.95
5/8	.55	1 1/4	1.10
		1 1/2	1.50



3791 XN 3791 YN 3791 ZN
COMMON WOODEN BLOCKS, PLATE 3791 XN TO PLATE 3791 ZN

For Manila Rope.
With inside iron straps, loose hooks, japanned iron sheaves.



3792 AN 3792 BN 3792 CN
STEEL TACKLE BLOCKS, PLATE 3792 AN TO PLATE 3792 CN

For Manila Rope.

Size of Shell	Diam. of Rope	Size of Sheave	Iron Bushed			Roller Bushed		
			Single	Double	Triple	Single	Double	Triple
3	3/8	1 1/4 x 1 1/2 x 3/4	\$0.70	\$1.30	\$1.75	\$1.10	\$2.00	\$2.90
3 1/2	3/4	2 x 2 1/2 x 3/4	.75	1.45	2.00	1.15	2.20	3.15
4	3/4	2 1/4 x 3 x 3/4	.85	1.60	2.15	1.20	2.25	3.25
4 1/2	3/4	3 x 3 1/2 x 3/4	.90	1.75	2.25	1.25	2.35	3.50
5	3/4	3 1/2 x 1 x 1 1/2	1.10	2.00	2.90	1.50	2.85	4.40
6	3/4	4 x 1 x 1 1/2	1.30	2.40	3.50	1.70	3.35	5.00
7	3/4	4 3/4 x 1 1/2 x 3/4	1.65	2.85	4.25	2.25	4.15	6.00
8	1	5 1/2 x 1 1/2 x 3/4	1.85	3.40	4.75	2.50	4.70	7.25
9	1	6 1/4 x 1 1/4 x 3/4	2.75	4.50	6.25	3.50	6.00	8.50
10	1 1/8	7 1/4 x 1 1/4 x 3/4	4.45	7.50	10.65	5.30	9.20	13.20
11	1 1/8	8 x 1 3/4 x 3/4	4.45	7.50	10.65	5.30	9.20	13.20
12	1 1/4	9 x 1 1/2 x 3/4	7.00	10.50	15.00	8.15	12.80	18.45
13	1 1/4	9 x 1 1/2 x 3/4	7.00	10.50	15.00	8.15	12.80	18.45
14	1 3/8	9 1/2 x 1 1/2 x 3/4	8.00	13.00	18.00	9.25	15.50	21.75
15	1 3/8	10 x 1 1/2 x 3/4	8.00	13.00	18.00	9.25	15.50	21.75
16	1 3/8	11 x 1 3/4 x 3/4	10.00	15.00	22.00	11.50	18.00	26.50

Length of Shell, Inches	DIMENSIONS		IRON BUSHED		
	For Diameter Rope	Size Sheave	Single	Double	Triple
3	3/8	1 3/4 x 1 1/2 x 3/4	\$0.70	\$1.30	\$1.75
4	3/4	2 1/4 x 3 x 3/4	.85	1.60	2.15
5	3/4	3 x 3 1/2 x 3/4	.90	1.75	2.25
6	3/4	3 1/2 x 1 x 1 1/2	1.10	2.00	2.90
7	3/4	4 1/4 x 1 x 1 1/2	1.30	2.40	3.50
8	1	4 3/4 x 1 1/2 x 3/4	1.65	2.85	4.25
10	1 1/8	6 1/4 x 1 1/4 x 3/4	2.75	4.50	6.25
12	1 1/4	8 x 1 3/4 x 3/4	4.45	7.50	10.65



3792 DN 3792 EN 3792 FN
HEAVY STEEL WIRE ROPE BLOCKS, PLATE 3792 DN TO PLATE 3792 FN

Stiff swivel hooks, shackles or loose hooks.
Common Iron Bushed

Size Sheave	Diameter Wire Rope in Inches.	Single	Double	Triple
6x1	x 3/4	\$ 9.00	\$14.00	\$20.00
8x1 1/4	x 7/8	11.00	16.00	22.50
10x1 1/4	x 1	14.00	20.00	28.00
12x1 1/2	x 1 1/8	16.00	23.00	31.00
14x1 1/2	x 1 1/4	18.00	25.00	36.00
16x1 3/4	x 1 1/2	31.00	40.00	46.00
18x1 3/4	x 1 1/2	34.50	45.00	53.00

Phosphor Bronze Self-Lubricating Bushed

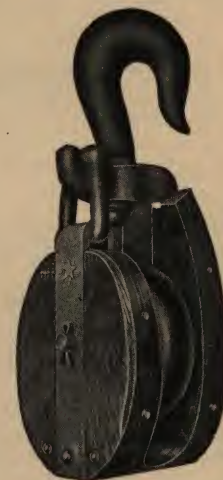
Size Sheave	Diameter Wire Rope in Inches.	Single	Double	Triple
6x1	x 3/4	\$12.00	\$20.00	\$28.00
8x1 1/4	x 7/8	14.00	22.00	32.00
10x1 1/4	x 1	17.00	26.00	37.00
12x1 1/2	x 1 1/8	19.00	29.00	41.00
14x1 1/2	x 1 1/4	21.00	31.00	45.00
16x1 3/4	x 1 1/2	36.00	50.00	72.00
18x1 3/4	x 1 1/2	40.00	56.00	78.00



3792 GN
WROUGHT IRON SNATCH BLOCKS, PLATE 3792 GN

For wire rope.
With phosphor bronze self-lubricating bushings.

Diameter of Sheath Over All in Inches	Diameter of Rope in Inches	Phosphor Bronze Self-Lub. Bushed
10	5/8	\$18.00
12	5/8	21.00
14	3/4	24.00
16	7/8	33.00
18	1	44.00
20	1 1/4	58.00



3792 HN
LOCKPORT PATTERN SNATCH BLOCKS, PLATE 3792 HN

For Manila Rope.

This snatch block is made with drop forge head and link, double side straps which extend to the bottom of the shell. The wood shell is double cross bolted.

Length of Shell, Inches	For Diameter Rope	Size of Sheave	Common Iron Bushed	Phosphor Bronze Self-Lub. Bushed
6	7/8	3 x 1 1/8 x 1 1/2	\$ 4.00	\$ 5.25
7	7/8	3 1/2 x 1 1/4 x 1 1/2	4.75	6.00
8	1	4 1/2 x 1 3/4 x 5/8	5.75	7.25
9	1 1/8	5 x 1 3/4 x 5/8	6.75	8.50
10	1 1/4	5 3/4 x 1 7/8 x 3/4	8.50	11.00
12	1 1/2	6 3/4 x 2 1/8 x 3/4	10.00	13.00
14	1 3/4	8 x 2 1/4 x 7/8	13.00	16.50
16	2	9 x 2 5/8 x 1	17.00	22.00
18	2 1/4	10 x 3 x 1 1/8	25.00	31.00
20	2 1/2	11 x 3 1/2 x 1 1/4	38.00	46.00
22	3	11 3/4 x 4 1/4 x 1 1/2	55.00	68.00
24	3 1/2	12 1/2 x 4 1/2 x 1 1/2	70.00	86.00



THE ROUND IMPROVED SCREW HOIST, PLATE 3792 IN

Double chain—screw geared.

The most practical hoist for general use.



3792 IN

This is the fastest and easiest working screw hoist on the market. It leads in efficiency, operating 25 per cent easier than other screw geared blocks.

Its patent swinging chain guides adjust themselves to any position, thereby enabling the operator to stand back from under the load and out of danger. Will sustain the load at any point.

To Raise, Pounds	Price	Will Lift, Feet	Extra Lift, per Foot	Weight of Machine, Pounds	Shortest Distance between Hooks, Inches
1,000	\$ 25.00	8	\$1.20	50	16
2,000	30.00	8	1.50	60	19
3,000	40.00	8	1.75	76	24
4,000	50.00	9	2.00	125	25
6,000	75.00	10	2.20	190	29
8,000	95.00	10	2.40	210	34
10,000	140.00	12	3.00	400	40
12,000	180.00	12	3.75	425	40
16,000	210.00	12	4.00	700	40
20,000	275.00	12	4.25	750	40

WESTON DIFFERENTIAL BLOCK, PLATE 3792 KN

Every hoist tested to full weight before shipment.

Where a cheaper hoist than the round screw hoist is required, we recommend the Weston differential block. These hoists are safe, strong and durable. They will sustain the load at any point. They are simple in construction and have fewer parts than any other hoist made. For occasional all-round work where the high efficiency of the superior or screw hoists are not required these blocks are highly satisfactory.

Capacity, Tons	Price, Complete	Will Hoist, Feet	Net Weight, Pounds	*Extra Hoist, per Foot	Regular Chain in Block, Feet
¼	\$18.00	6	37	\$2.80	22
½	21.00	7	45	2.80	26
1	28.00	8	64	3.00	30
1½	36.00	8½	100	3.20	33
2	45.00	9	145	3.40	36
3	60.00	10	200	4.00	38

*Each foot of extra hoist includes 4 feet of chain.



3792 KN



½ to 2-ton.



3792 LN

3 to 4-ton.



3792 MN

5 to 10-ton.



3792 ON

THE SUPERIOR BLOCK, PLATE 3792 LN TO PLATE 3792 ON
Spur-Geared

Made in thirteen sizes from ½ ton to 20-ton.

From 12 to 20-ton they consist of two blocks yoked together at the top, having two hand chains, top and bottom idler blocks. Modern methods demand speed and ease in lifting. The Superior block combines both. The market offers nothing faster or easier lifting except complicated electric hoists, which cannot be carried around to every part of your plant like Superior blocks, and cost about ten times more.

The Superior block is a safe, well designed block.

This is the most powerful block ever built. It is also the most efficient. This is due largely to the fact that the load is not sustained by friction of the working parts as in most blocks, but by a method entirely separate from the lifting mechanism.

Eliminating this friction gives us the most efficient hoist on the market. Our average efficiency is over 80%, which returns in actual lifting, all the work put into the block except 20%.

Figure the saving with this high-speed easy-lifting block, when compared with other hoists having efficiencies of from 30 to 40%.

"A line of steel carries the load." Steel chain, steel gears, steel hooks, steel cover, steel load sheave, steel driving pinion, in fact steel is used everywhere possible to make Superior blocks the most dependable and durable built.

Capacity in Tons	Price Complete	Regular Hoist in Feet*	Reach in Feet and Inches		Extra Hoist Price per Foot	Minimum Distance between Hooks in Inches	Weight in Pounds		Chain Pull in Pounds to Lift Full Load	Feet of Chain Handled to Lift Load One Foot
			Feet	Inches			Net	Gross		
½	\$35.00	8	9	3	\$0.90	15	53	67	62	21
1	45.00	8	9	5	.95	17	80	96	82	31
1½	60.00	8	9	7½	1.00	19½	124	145	110	35
2	70.00	9	11	0	1.05	24	188	212	120	42
3	90.00	10	12	8	1.50	32	200	230	114	69
4	110.00	10	13	1	1.60	37	290	318	124	84
5	140.00	12	15	9	2.15	45	380	428	110	126
6	165.00	12	15	10	2.15	46	390	445	130	126
8	200.00	12	16	3	2.70	51	470	505	135	168
10	240.00	12	16	9	3.25	57	570	625	140	210
12	300.00	12	16	9	4.30	57	800	910	130†	126†
16	360.00	12	17	1	5.40	61	1000	1115	135†	168†
20	425.00	12	18	5	6.50	77	1375	1640	140†	210†

*These figures show the height which blocks furnished with the regular amount of chain will hoist above the level on which the operator stands. Can furnish any length hoist desired.

†Two hand chains on these sizes—figures are for each hand chain.

If you are using old hoists you can well afford to scrap them, or place them where only used occasionally and install the fast up-to-date Superior blocks.

We will gladly ship Superior blocks on thirty-day free trial to responsible parties.



STERLING EMERY GRINDERS, PLATE 3792 PN

Nos. 00 and 0.

	No. 00.	No. 0.
Bench space, inches.....	10x10	12x12
Length of spindle.....	13	13
Bearings	$2\frac{1}{2} \times 1\frac{3}{16}$	$3 \times 1\frac{3}{16}$
Distance between flanges.....	$\frac{3}{4}$	$\frac{3}{4}$
Diameter of flanges.....	3	$3\frac{1}{4}$
Height to spindle.....	7	8
Pulleys	$2\frac{1}{2} \times 2\frac{1}{4}$	$2\frac{1}{2} \times 2\frac{1}{4}$
Weight	26 lbs.	31 lbs.
Price	\$5.00	\$6.00



3792 PN

STERLING EMERY GRINDERS, PLATE 3792 QN

Number 1.

This machine is designed for a light two-wheel grinder or for one emery wheel and one polishing wheel.



3792 QN

	Inches.
Bench space	10x5
Diameter of bearings.....	$1\frac{3}{16}$
Distance between wheels.....	$8\frac{1}{2}$
Diameter of flanges.....	$3\frac{1}{4}$
Size of pulley.....	$2\frac{1}{2} \times 2\frac{1}{2}$
Length of spindle.....	13
Diameter of spindle between flanges.....	$\frac{3}{4}$
Length of bearing.....	$2\frac{1}{2}$
Height from bench to spindle.....	7

Weight, 25 pounds.

Will run two 10x1-inch wheels.

Price, without wheels..... \$7.50

STERLING EMERY GRINDERS, PLATE 3792 RN

Number 2.

This machine is designed to meet the demand for a medium weight single-wheel grinder. The arbor has large flanges, giving ample support to the emery wheel. The tight collar on end of arbor for taking up the end play is also designed to hold a small drill or bit. This machine will be found very useful in pattern-making or wood-working shops.

	Inches.
Bench space	15x7
Diameter of spindle in bearings.....	$1\frac{1}{16}$
Length of bearings.....	4
Height from bench to spindle.....	9
Length of spindle.....	18
Diameter between flanges.....	1
Diameter of flanges.....	5
Pulley	3x3

Weight, 45 pounds.

Will run one 14x2 emery wheel.

Price, without wheels.....\$11.50



3792 RN

STERLING EMERY GRINDERS, PLATE 3792 SN

Number 3.



3792 SN

	Inches.
Bench space	15x7
Length of spindle.....	20
Height from bench to center of spindle.....	9
Length of bearings.....	4
Diameter of bearings.....	$1\frac{1}{16}$
Diameter of spindle between flanges.....	1
Diameter of flanges.....	5
Diameter of pulley.....	$3\frac{1}{4} \times 3$

Weight, 60 pounds.

Will run two wheels 14x2.

Price, without wheels.....\$15.00

This machine, with tight and loose pulleys, same price.

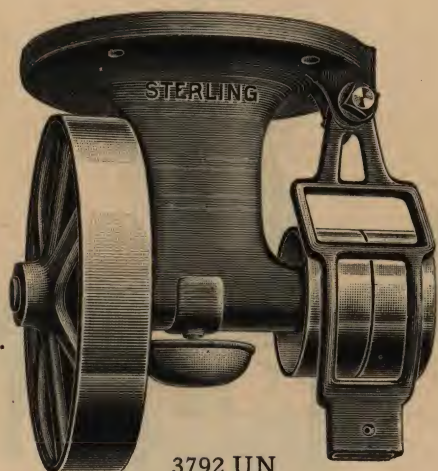


3792 TN

PRICE LIST—STRAIGHT EMERY WHEELS, PLATE 3792 TN

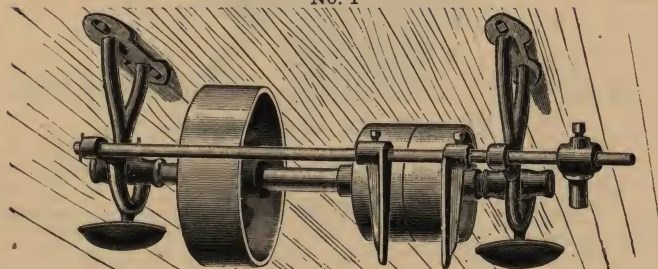
Diameter	Thickness of wheels in inches.															
	1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4
1	\$0.40	\$0.50	\$0.60	\$0.70	\$0.80	\$0.95	\$1.05	\$1.15	\$1.25	\$1.35	\$1.45	\$1.55	\$1.70	\$1.80	\$1.90	\$2.00
2	.60	.75	.90	1.00	1.15	1.30	1.45	1.60	1.75	1.85	2.00	2.15	2.30	2.40	2.55	2.70
3	.80	1.00	1.20	1.45	1.65	1.85	2.10	2.30	2.50	2.70	2.95	3.15	3.35	3.55	3.80	4.00
4	1.10	1.40	1.65	1.95	2.25	2.55	2.80	3.10	3.40	3.70	4.00	4.25	4.55	4.80	5.10	5.40
5	1.50	1.90	2.25	2.65	3.00	3.40	3.80	4.15	4.55	4.90	5.30	5.70	6.05	6.40	6.80	7.20
6	1.90	2.40	2.90	3.40	3.90	4.45	4.95	5.40	5.95	6.50	7.00	7.50	8.00	8.50	9.00	9.50
7	2.30	2.95	3.60	4.30	4.95	5.60	6.30	6.90	7.55	8.20	8.90	9.60	10.25	10.90	11.55	12.20
8	2.70	3.55	4.40	5.20	6.10	6.90	7.80	8.60	9.45	10.30	11.15	12.00	12.85	13.70	14.55	15.40
9	3.10	4.15	5.20	6.30	7.40	8.40	9.50	10.60	11.65	12.70	13.75	14.80	15.90	17.00	18.05	19.10
10	3.60	4.90	6.20	7.50	8.90	10.20	11.50	12.80	14.10	15.40	16.70	18.00	19.35	20.70	22.00	23.30
12	4.20	6.00	7.80	9.50	11.30	13.10	14.90	16.70	18.45	20.20	22.00	23.80	25.55	27.30	29.10	30.90
14	4.90	7.20	9.60	11.90	14.20	16.50	18.90	21.20	23.50	25.80	28.15	30.50	32.80	35.10	37.45	39.80
16	5.70	8.70	11.60	14.60	17.60	20.50	23.50	26.50	29.45	32.40	35.35	38.30	41.30	44.30	47.25	50.20
18	6.60	10.30	14.00	17.70	21.40	25.10	28.80	32.50	36.15	39.80	43.50	47.20	50.90	54.60	58.30	62.00
20	.....	12.30	16.80	21.40	25.90	30.50	35.00	39.60	44.15	48.70	53.35	58.00	62.50	67.00	71.50	76.00
22	.....	.....	20.10	25.60	31.10	36.70	42.20	47.70	53.35	59.00	64.50	70.00	75.50	81.00	86.50	92.00
24	.....	.....	24.00	30.60	37.30	44.00	51.00	59.00	65.00	71.00	78.00	85.00	92.00	99.00	106.00	113.00
26	.....	.....	.....	36.40	44.50	52.50	61.00	69.00	77.00	85.00	93.00	101.00	109.00	117.00	125.00	133.00
28	.....	.....	.....	.....	46.00	55.00	65.00	74.00	83.00	92.00	102.00	111.00	120.00	129.00	139.00	148.00
30	.....	.....	.....	.....	58.00	68.00	79.00	89.00	100.00	111.00	122.00	132.00	143.00	153.00	164.00	174.00

No. 0



3792 UN

No. 1



3792 VN

STERLING COUNTERSHAFTS FOR EMERY GRINDERS AND OTHER SMALL MACHINES, PLATE 3792 UN AND PLATE 3792 VN

	No. 0 For Grinders Nos. 00, 0 and 1	No. 1 For Grinders Nos. 2 and 3
Tight and loose pulleys, inches.....	5x2 1/4	6x2 3/4
Drive pulley, inches.....	12x2 1/4	10x3 1/2
Length of shaft, inches.....	14 1/2	24
Drop hangers, inches.....	8 3/8	7 1/2
Each	\$7.50	\$8.00



3792 WN

IRON COLUMN FOR BENCH GRINDING MACHINES, PLATE 3792 WN

No. 1 for No. 1 Grinder

Height, inches.....	28
Size of table, inches.....	10x5 1/2
Base, inches.....	13 1/2 x 15
Weight, pounds.....	63
Each	\$5.00

No. 3 for Nos. 2 and 3 Grinders

Height, inches.....	32
Size of table, inches.....	14x7
Floor space, inches.....	17x15 1/2
Weight, pounds.....	104
Each	\$7.50



No. 650



3793 AN

"BUFFALO" STANDARD BLACKSMITHS' FORGE, PLATE 3793 AN

Save time using 14-inch or 16-inch blower.

Number	650-X	650	650-Z
Size of fan, inches.....	12	14	16
Size of hearth, inches.....	28x40	28x40	28x40
Weight, pounds	330	332	335
With water tank.....	\$52.00	\$54.00	\$59.00
Without tank	48.00	50.00	55.00

No. 651



3793 BN

"BUFFALO" FORGE, PLATE 3793 BN
Fan 12 inches in diameter.

Number	651	653
Size of hearth, inches.....	23x30	23x30
Diameter of fan case, inches.....	12	12
Shipping weight, pounds.....	205	195
With water tank.....	\$44.00	\$41.00
Without tank	40.00	37.00

No. 625



3793 CN

"BUFFALO" RIVET FORGE, PLATE 3793 CN

Largest capacity. Quickest heats. Easiest operation.

Equipped with "Buffalo" No. 200 silent blower, with 12-inch fan. Crank turns either way, producing equal blast.

Diameter of fire pan, 18 inches. Full 12-inch fan case. Weight, 100 pounds.

Each \$35.00

No. 670-S



3793 DN

"BUFFALO" CAST IRON WAGONMAKERS' FORGE, PLATE 3793 DN

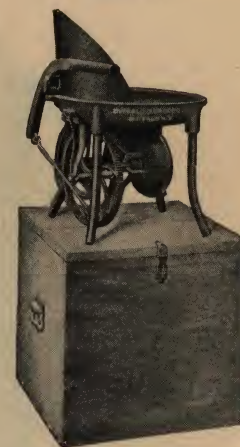
Save time using 14-inch or 16-inch blower.

Equipped with "Buffalo" No. 200 silent blower and "Vulcan" tuyere.

Number	670-SX	670-S	670-SZ
Size of blower, inches.....	12	14	16
Blast pressure, inches.....	2½	3	4
Speed of fan, r. p. m.....	2200	2200	2200
Size of hearth, inches.....	38x42	38x42	38x42
Weight, pounds	525	527	530
With water tank.....	\$74.00	\$76.00	\$81.00
Without tank	69.00	71.00	76.00



No. 11



3793 JN

No. 9



3793 HN

No. 8



3793 GN

No. 7



3793 FN

"BUFFALO" BENCH AND PROSPECTORS' FORGES

These forges are intended only for light work, and can conveniently be placed on a bench or other support, being only 15 inches high to top of fire pan. No. 11 is operated by lever motion, the others by turning crank.

Nos. 7, 8 and 9 are identical, except in the matter of hood.

Number	7	8	9	11
Diameter of hearth, inches.....	15	15	15	18
Diameter of fan, inches.....	6	6	6	8
Shipping weight, pounds.....	40	42	43	60
Each	\$16.00	\$18.00	\$20.00	\$22.00



3793 KN

"BUFFALO" No. 200-P SILENT BLOWER, PLATE 3793 KN

Furnished with heavy-duty "Vulcan" tuyere.

Diameter of fan, inches.....	12	14	16
Shipping weight, with tuyere, pounds	193	195	197
Shipping weight, without tuyere, pounds	138	140	142
With vulcan tuyere and pipe..	\$37.00	\$44.00	\$48.00
Without tuyere or pipe.....	35.00	42.00	46.00



3793 LN

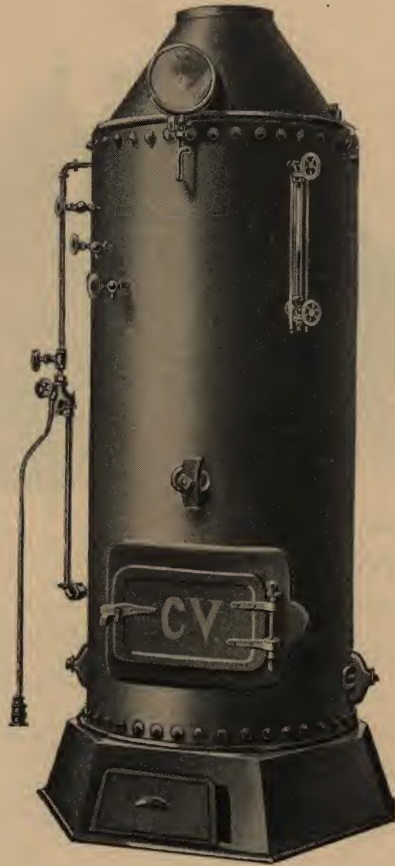
"BUFFALO" CLIMAX BLOWER, PLATE 3793 LN

Mounted on pedestal.

Diameter of fan, inches.....	12
Shipping weight, pounds.....	130
Each	\$27.00

Mounted on three legs.

Diameter of fan, inches.....	12
Shipping weight, pounds.....	110
Each	\$27.00



3793 RN



3793 SN

PLAIN VERTICAL BOILERS, PLATE 3793 RN

Code	Dab	Dace	Dale	Dame	Dark	Dash	Date	Day	Dawn	Daze	Deaf	Deal	Dew	Dial	Diet
Horse-power	13/4	2	3	4	5	6	8	10	12	14	16	20	25	30	35
Diameter of boiler, inches	20	20	20	24	24	26	30	30	36	36	36	42	42	42	48
Height above base, inches	36	43	50	50	60	60	60	72	72	84	96	108	120	120	96
Diameter of furnace, inches	16	16	16	20	20	22	26	26	31	31	31	37	37	37	42
Height of furnace, inches	18	18	18	18	22	22	24	26	26	32	32	32	32	34	32
Size safety valve, inches	3/4	3/4	3/4	3/4	3/4	3/4	1	1	1 1/4	1 1/4	1 1/2	1 1/2	2	2	2
Size blow-off, inches	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1	1	1	1	1 1/4	1 1/4	1 1/4
Thickness of steel in shell, inches	3/16	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Thickness of steel in heads, inches	1/4	5/16	5/16	5/16	5/16	5/16	5/16	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16
Thickness of steel in fire box, inches	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/16	5/16	5/16	5/16	5/16	5/16	5/16
Length of tubes, inches	18	25	32	32	38	38	36	48	48	56	64	64	76	86	64
Number of 2-inch tubes	19	19	19	31	31	37	43	43	55	55	55	79	85	91	138
Weight of boiler, without trimmings or fixtures, pounds	325	430	530	640	750	840	1,010	1,180	1,520	1,800	2,280	3,000	3,400	3,800	4,000
Weight of boiler complete, pounds	475	560	645	970	1,090	1,300	1,550	1,650	2,350	2,500	3,000	3,775	4,400	4,700	5,700
Outside diameter of stack, opening, inches	8	8	8	10	10	10	10	10	16	16	16	20	20	20	24
Height, floor to top of hood, inches	50	54	60	66	76	76	76	94	98	108	120	120	132	144	120

SUBMERGED TUBULAR BOILERS, PLATE 3793 SN

Code	Ear	East	Ebb	Echo	Eel	Egg	Eke	Elk	Elm	Ever	Exit	Eve	End
Horse-power	5	6	8	10	12	13	14	15	18	20	25	30	35
Diameter, inches	24	26	30	30	36	36	36	36	36	42	42	48	48
Height, inches	60	60	60	72	72	72	78	84	96	96	108	102	108
Height of fire box, inches	24	26	27	28	26	26	26	30	30	30	30	30	30
Number of tubes	31	37	54	54	52	61	70	70	70	85	91	134	134
Diameter of tubes, inches	2	2	2	2	2	2	2	2	2	2	2	2	2
Length of tubes, inches	18	18	19	27	27	27	33	38	48	42	57	45	51
Thickness of shell, inches	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	5/16
Thickness of fire box, inches	9/32	9/32	9/32	9/32	9/32	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16
Thickness of heads, inches	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Thickness of cone, inches	9/32	9/32	9/32	9/32	9/32	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16
Size of safety valve, inches	3/4	3/4	1	1	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2	2	2
Size of blow-off, inches	3/4	3/4	3/4	3/4	1	1	1	1	1	1	1 1/4	1 1/4	1 1/4
Diameter of stack opening, inches	11 1/2	11 1/2	11 1/2	15 1/2	17	17	17	18	18	20	21	24	24
Weight of boiler, without fixtures, pounds	700	800	1,075	1,250	1,450	1,450	1,700	1,930	2,200	2,600	3,250	4,000	4,200
Weight of boiler complete, pounds	1,200	1,300	1,500	1,700	1,900	2,000	2,100	2,700	3,200	3,500	4,450	5,700	5,900

Cast fixtures—Base, fire door, ash pit door and grates.

Trimnings—Injector fitted, steam gauge, water gauge, gauge cocks, safety valve, blow-off, check and stop valves. All boilers above 26 inches in diameter have vertical seams, double riveted. They are made of flange steel, 60,000 pounds tensile strength, and are tested to 150 pounds hydrostatic pressure.



Full length tubes.



3793 TN

Submerged tubes.



3793 UN

VERTICAL TUBULAR BOILERS, PLATE 3793 TN

Specifications for full length tubes.

Code word	Peach	Pear	Pebble	Pecan	Peck	Peddler	Peer	Peg	Pelt	Penny	Peon	People	Perry
Horse-power	5	8	10	12	15	18	20	25	30	35	40	45	50
Diameter of shell, inches	24	30	30	30	36	36	36	42	42	42	48	48	48
Height of shell, inches	60	60	72	84	75	84	93	87	93	105	96	108	120
Height of fire box, inches	24	27	27	27	27	27	27	27	27	27	30	30	30
Thickness of shell, inches	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	9/32	9/32	9/32
Thickness of fire box, inches	1/4	1/4	1/4	1/4	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16
Thickness of heads, inches	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16
Diameter of tubes, inches	2	2	2	2	2	2	2	2	2	2	2	2	2
Number of tubes	28	48	48	48	68	68	68	92	92	92	128	128	128
Length of tubes, inches	36	33	45	57	48	57	66	60	66	78	66	78	90
Size of lever safety valve, inches	1	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2	2	2 1/2	2 1/2	3	3	3
Size of check and stop-valve, inches	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4	1	1	1
Size of blow-off cock, inches	1	1	1	1	1	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Diameter of stack, inches	12	14	14	14	16	16	16	18	18	18	22	22	22
Thickness of stack, gauge	16	16	16	16	16	16	16	16	16	16	16	16	16
Weight of boiler, pounds	900	1,200	1,400	1,600	2,000	2,100	2,350	2,800	3,200	3,500	4,000	4,300	4,700
Weight of boiler and fixtures, lbs.	1,200	1,500	1,750	1,950	2,350	2,450	2,700	3,350	3,700	4,100	4,700	5,000	5,400
Weight of stack, per foot, lbs.	11	12	12	12	14	14	14	15	15	15	19	19	19
Complete outfit	\$213	\$258	\$278	\$293	\$318	\$351	\$371	\$445	\$475	\$512	\$589	\$624	\$674
Boiler only with bottom plate	190	230	250	265	285	315	335	405	435	470	540	575	625

VERTICAL TUBULAR BOILERS, PLATE 3793 UN

Specifications for submerged tubes.

Code word	Sea	Seam	Sear	Search	Season	Seal	Secret	Section	Secure	Sedate	Seed	Select	Senate
Horse-power	5	8	10	12	15	18	20	25	30	35	40	45	50
Diameter of shell, inches	24	30	30	30	36	36	42	42	48	48	48	48	54
Height of shell, inches	60	72	78	84	84	90	87	93	102	108	114	120	114
Height of fire box, inches	24	27	27	27	27	27	27	27	30	30	30	30	30
Thickness of shell, inches	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	9/32	9/32	9/32	9/32	5/16
Thickness of fire box, inches	1/4	1/4	1/4	1/4	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16	5/16
Thickness of heads, inches	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	7/16	7/16	7/16	7/16	7/16
Diameter of tubes, inches	2	2	2	2	2	2	2	2	2	2	2	2	2
Number of tubes	31	48	48	48	68	68	92	92	128	128	128	128	174
Length of tubes, inches	18	27	33	39	39	45	42	48	45	51	57	63	57
Size of lever safety valve, inches	1	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2	2	2	2 1/2	3	3	3
Size of check and stop-valve, inches	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4	1	1	1
Size of blow-off cock, inches	1	1	1	1	1	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Diameter of stack, inches	12	14	14	14	16	16	18	18	22	22	22	22	26
Thickness of stack, gauge	16	16	16	16	16	16	16	16	16	16	16	16	16
Weight of boiler, pounds	1,000	1,450	1,550	1,700	2,150	2,300	2,700	3,000	4,200	4,500	4,800	4,950	5,500
Weight of boiler and fixtures, lbs.	1,225	1,775	1,875	2,025	2,450	2,600	3,175	3,475	4,800	5,100	5,400	5,550	6,600
Weight of stack, per foot, lbs.	11	12	12	12	14	14	15	15	19	19	19	19	22
Complete outfit	\$250	\$323	\$343	\$358	\$428	\$443	\$525	\$545	\$663	\$685	\$712	\$737	\$826
Boiler only with bottom plate	230	300	320	335	400	415	495	515	630	650	675	700	780

Boilers 36 inches and under in diameter have two hand-holes at bottom of water-leg.
Boilers over 36 inches in diameter have three hand-holes at bottom of water-leg.



3793 WN

STANDARD HORIZONTAL RETURN TUBULAR BOILERS, FULL FRONT, PLATE 3793 WN

Longitudinal seams, all butt jointed, double riveted. 100 pounds working pressure.

Horse-power, of boiler as rated..	15	20	25	30	35	40	45	50	60	70	80	90	100
Diameter of boiler, inches.....	36	36	36	44	44	44	48	48	54	54	60	60	66
Length of tubes, feet.....	8	10	12	10	12	14	12	14	14	16	16	18	16
Number of 3-inch tubes.....	24	24	24	36	36	36	46	46	.....	.....	.....	.....	.....
Number of 3½-inch tubes.....	.....	.....	.....	28	28	28	34	34	44	44	54	54	66
Number of 4-inch tubes.....	.....	.....	.....	.....	.....	.....	28	28	36	36	44	44	54
Tube heating surface with 3-inch tubes, square feet.....	150.8	188.5	226.2	282.7	339.2	395.8	433.5	505.8	.....	.....	.....	.....	.....
Tube heating surface with 3½-inch tubes, square feet.....	.....	.....	.....	256.6	307.9	359.2	373.9	436.2	564.4	645.1	791.7	890.6	967.6
Tube heating surface with 4-inch tubes, square feet.....	.....	.....	.....	.....	.....	.....	351.9	410.5	527.8	603.2	737.2	829.4	904.8
Shell heating surface, square feet	50.3	62.8	75.4	76.8	92.2	107.5	100.5	117.3	131.9	150.8	167.6	188.5	184.3
Thickness of shell, inches.....	¼	¼	¼	¼	¼	¼	⅝	⅝	⅝	⅝	⅝	⅝	⅝
Thickness of heads, inches.....	⅜	⅜	⅜	⅜	⅜	⅜	⅞	⅞	⅞	⅞	⅞	⅞	⅞
Width of grates, inches.....	36	36	36	42	42	42	48	48	54	54	60	60	66
Length of grates, inches.....	36	36	42	36	42	48	42	48	48	54	54	60	66
Area of grates, square feet.....	9.0	9.0	10.5	10.5	12.25	14.0	14.0	16.0	18.0	20.25	22.5	25.0	24.75
Diameter of stack, inches.....	16	16	16	22	22	22	24	24	26	26	28	28	30
Length of stack, feet.....	30	35	40	35	40	50	40	50	50	60	60	60	60
Gauge of stack.....	16	16	16	16	16	16	16	16	16	16	14	14	14
Length of guys, feet.....	180	210	240	210	240	300	240	300	300	600	600	600	600
Diameter of guys, inches.....	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
Weight complete, pounds.....	4,665	5,125	5,635	6,745	7,430	8,200	9,190	10,070	12,060	13,160	15,730	16,980	19,020
Boiler complete with trimmings, no smokestack.....	\$450	\$492	\$541	\$625	\$685	\$749	\$881	\$ 944	\$1,130	\$1,221	\$1,385	\$1,511	\$1,582
Boiler complete with stack.....	497	547	604	697	767	851	968	1,053	1,246	1,369	1,575	1,701	1,783

STANDARD HORIZONTAL RETURN TUBULAR BOILERS, FULL FRONT, PLATE 3793 WN

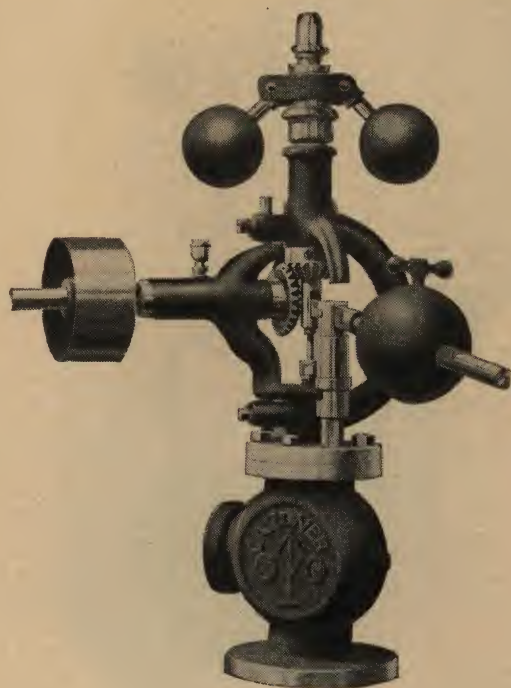
Longitudinal seams, all butt jointed, triple riveted. 125 pounds working pressure.

Horse-power of boiler as rated.....	45	50	60	70	80	90	100	110	125	150
Diameter of boiler, inches.....	48	48	54	54	60	60	66	66	72	72
Length of tubes, feet.....	12	14	14	14	16	16	18	18	18	18
Number of 3-inch tubes.....	46	46	.....	.....	.....	.....	.....	.....	.....	.....
Number of 3½-inch tubes.....	34	34	44	44	54	54	66	66	86	86
Number of 4-inch tubes.....	28	28	36	36	44	44	54	54	70	70
Tube heating surface with 3-inch tubes, square feet.....	433.5	505.8	.....	.....	.....	.....	.....	.....	.....	.....
Tube heating surface with 3½-inch tubes, square feet.....	373.9	436.2	564.4	645.1	791.7	890.6	967.6	1088.6	1260.8	1418.4
Tube heating surface with 4-inch tubes, square feet.....	351.9	410.5	527.8	603.2	737.2	829.4	904.8	1017.9	1172.9	1319.5
Shell heating surface, square feet.....	100.5	117.3	131.9	150.8	167.6	188.5	184.3	207.4	201.1	226.2
Thickness of shell, inches.....	5/16	5/16	11/32	11/32	3/8	3/8	13/32	13/32	7/16	7/16
Thickness of heads, inches.....	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16
Width of grates, inches.....	48	48	54	54	60	60	66	66	72	72
Length of grates, inches.....	42	48	48	54	54	60	54	60	54	60
Area of grates, square feet.....	14.0	16.0	18.0	20.25	22.5	25.0	24.75	27.5	27.0	30.0
Diameter of stack, inches.....	24	24	26	26	28	28	30	30	34	34
Length of stack, feet.....	40	50	50	60	60	60	60	60	60	60
Gauge of stack.....	16	16	16	16	16	14	14	14	14	14
Length of guys, feet.....	240	300	300	600	600	600	600	600	600	600
Diameter of guys, inches.....	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
Weight complete, pounds.....	9,790	10,770	12,860	14,060	16,830	18,180	20,320	21,870	24,440	26,140
Boiler complete with trimmings, no stack.....	\$ 943	\$1,006	\$1,213	\$1,304	\$1,468	\$1,594	\$1,665	\$1,785	\$1,939	\$2,122
Boiler complete, with stack.....	1,030	1,115	1,329	1,452	1,658	1,784	1,866	1,986	2,162	2,345

Trimmings for above boilers, pop safety valve and nipples, water column and connections, steam gauge and syphon, blow-off valve, feed valve and check valve. Can furnish other styles and sizes, prices upon application.



Class "A," with automatic safety stop and speeder.



3793 XN

Class "B," with speeder and sawyer's lever.



3793 YN

GARDNER STANDARD GOVERNORS, PLATE 3793 XN AND PLATE 3793 YN

In ordering either "A" or "B" governors, state whether plain or finished. (The term "finished" applies only to extra machine work done on the balls, etc., for neater appearance, and not to any difference in the working parts.) Also state whether screwed or flanged base and side openings are wanted.

Class "A" Standard Governor

Size of governor, diam. of opening.	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
Class "A," plain	\$24.50	\$29.50	\$36.00	\$48.00	\$59.00	\$71.00	\$83.00	\$96.00	\$109.00	\$140.00	\$170.00	\$210.00
Class "A," finished	27.50	33.50	40.00	53.00	67.00	80.00	93.00	107.00	121.00	154.00	186.00	227.00

Class "B" Standard Governor

Size of governor, diam. of opening.	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
Class "B," plain	\$21.00	\$25.00	\$30.00	\$40.00	\$50.00	\$60.00	\$71.00	\$83.00	\$94.00	\$122.00	\$150.00	\$185.00
Class "B," finished	24.00	29.00	34.00	45.00	58.00	69.00	81.00	94.00	106.00	136.00	166.00	202.00

Table of Dimensions of Class "A" and Class "B" Standard Governors.

Size of governor, diameter of opening	1½	2	2½	3	3½	4
Diameter of base flange	Sc'd 5	6	7	7½	8½	9
Diameter of side flange	Sc'd 5	6	7	7½	8½	9
Largest radius of balls	5	6	6½	7½	8½	9
From center to side flange	3¾	4½	5½	6½	6½	6½
From base to center of inlet	3¾	4½	5½	6½	6½	6½
Extreme height	22½	27	27½	28½	31½	37
From center to end of shaft	11	11	12½	13	15	17
Diameter of pulley	3	3	5	5	5½	6
Width of belt	1½	1½	2	2	2	2½
Number of revolutions	250	250	200	200	170	160
Diameter cylinder—300 feet piston speed	6	7	9	10	14	18
Diameter cylinder—400 feet piston speed	5	6	8	9	12	16
Diameter cylinder—500 feet piston speed	4½	5	7	8	10	14
Diameter cylinder—600 feet piston speed	4	4½	6	7	8	11

Size of governor, diameter of opening	4½	5	6	7	8	9	10
Diameter of base flange	9¼	10	11	12½	13½	15	16
Diameter of side flange	9¼	10	11	12½	13½	15	16
Largest radius of balls	8½	10	11	12	12	15	15
From center to side flange	7	7¾	8¾	9	10¾	11	13
From base to center of inlet	7¾	7¾	8¾	9½	10¾	11	15
Extreme height	37½	45½	45¾	51¼	53	55	63
From center to end of shaft	17	21	21	25½	25½	25½	28
Diameter of pulley	6	7	7	10	11	12	12
Width of belt	2½	3	3	3	3	3	3
Number of revolutions	160	150	150	130	130	130	115
Diameter cylinder—300 feet piston speed	20	22	26	31	36	40	45
Diameter cylinder—400 feet piston speed	18	20	23	27	31	35	39
Diameter cylinder—500 feet piston speed	16	18	21	24	28	31	35
Diameter cylinder—600 feet piston speed	15	16	19	22	25	28	32



Class "B," with speeder and hand lever.

Class "A," with speeder, hand lever and automatic stop.



3794 AN



3794 BN

GARDNER SPRING GOVERNORS, PLATE 3794 AN AND PLATE 3794 BN

Spring governors were designed especially for high-speed stationary and portable engines. They are quick and sensitive in action. In construction they are fully up to the best modern practice in every particular, and are made in sizes from 1/2 to 7 inches, inclusive.

Class "B" represents the spring governor without automatic stop, but furnished with speeder and hand lever on all sides.

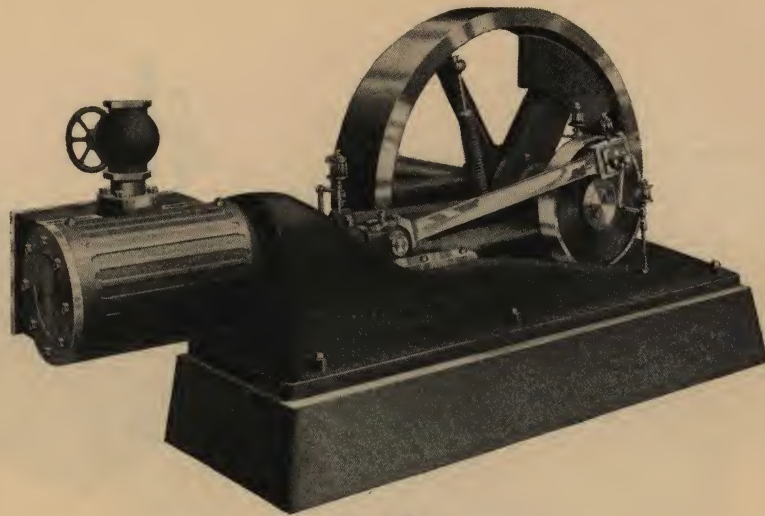
Class "A" shows the spring governor with automatic stop. This also has feeder and hand lever. When ordering Class "A" governors, always state whether for vertical or horizontal engines.

Class "A" and Class "B" Spring Governors.

Diameter of opening.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
Class "B," plain.....	\$14.00	\$16.00	\$18.00	\$21.00	\$25.00	\$30.00	\$40.00	\$50.00	\$60.00	\$71.00	\$ 94.00	\$122.00
Class "B," finished.....	16.00	18.00	20.00	24.00	29.00	34.00	45.00	58.00	69.00	81.00	106.00	136.00
Class "A," plain.....	16.50	18.50	21.00	24.50	29.50	36.00	48.00	59.00	71.00	83.00	109.00	140.00
Class "A," finished.....	18.50	20.50	23.00	27.50	33.50	40.00	53.00	67.00	80.00	93.00	121.00	154.00

Table of Dimensions of Class "A" and Class "B" Spring Governors

Size of governor, diameter of opening.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/4	2 1/2	3	3 1/2	4	4 1/2	5	6
Diameter of base flange.....	Sc'd	Sc'd	Sc'd	Sc'd	5	6	7	7	7 1/2	8 1/2	9	9 1/4	10	11
Diameter of side flange.....	Sc'd	Sc'd	Sc'd	Sc'd	Sc'd	Sc'd	7	7	7 1/2	8 1/2	9	9 1/4	10	11
Height, inches.....	12	13	13 1/2	19 1/4	22	23	24	27	29	30	35	36	37	42
Radius of balls.....	2 1/2	2 1/2	2 1/2	3 1/2	4	4	4	5	5	5	6	6	6	7
From center of governor to end of shaft....	7 3/8	8 5/8	8 5/8	10 7/8	13	13	13	15	15	16	17	17	21	21
Diameter of pulley.....	1 1/2	1 1/2	1 1/2	2	2 1/2	2 1/2	3 1/2	3 1/2	3 1/2	4 1/2	4 1/2	4 1/2	6	6
Width of belt.....	1	1	1	1 1/4	1 1/2	1 1/2	1 1/2	2	2	2	2 1/2	2 1/2	2 1/2	3
Center to side flange.....	1 3/4	2 3/8	2 1/2	3 3/16	3 5/8	4 1/2	4 5/8	5 1/2	6 1/8	6 1/2	6 5/8	7	7 3/8	8 1/4
Base to center of inlet.....	1 3/4	2 1/2	2 3/4	3 7/16	3 5/8	4 1/2	5 1/8	5 3/4	6 1/8	6 1/2	6 5/8	7 1/8	7 3/4	8 1/4
Number of revolutions.....	600	600	600	450	400	400	400	350	350	350	275	275	275	280



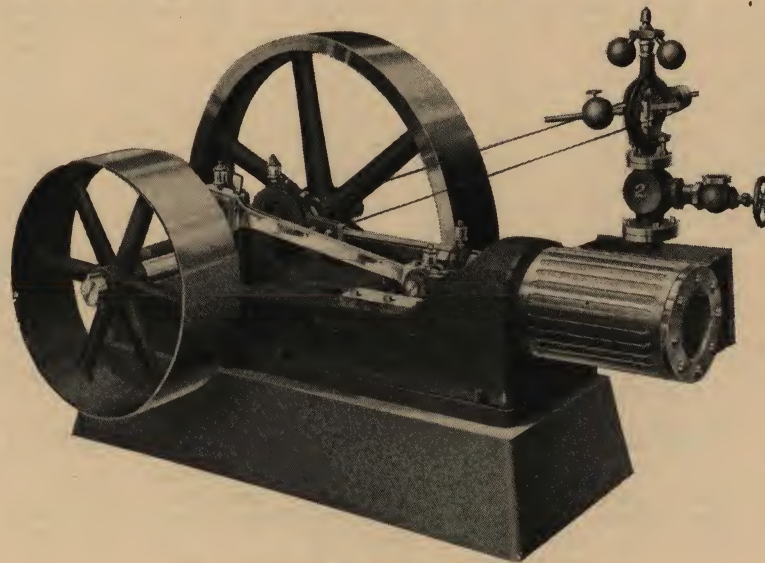
3794 CN

FROST AUTOMATIC SIDE-CRANK HEAVY-DUTY ENGINES, PLATE 3794 CN

Horsepower at 40 lbs. M. E. P. ¼ cut-off.	33	42	52	57	69	82	86	101	117	154	195
Diam. of cylinder and l'gth of stroke, ins..	8x13	9x13	10x13	10x16	11x16	12x16	12x18	13x18	14x18	16x20	18x20
Revolutions per minute.....	250	250	250	225	225	225	210	210	210	190	190
Diam. and face of band wheel, in inches..	54x10	54x10	54x12	60x14	60x14	60x14	60x16	60x16	72x18	84x22	84x24
Diameter of shaft, in inches.....	3 15/16	3 15/16	3 15/16	4 7/16	4 7/16	4 7/16	5 3/8	5 3/8	5 3/8	7 1/2	7 1/2
L'gth of shaft from center of engine, ins.	61	61	61	73	73	73	85 1/2	85 1/2	85 1/2	98 1/2	98 1/2
Diam. of steam and exhaust pipes, in ins.	2 & 3	2 1/2 & 3 1/2	2 1/2 & 3 1/2	2 1/2 & 3 1/2	3 & 4	3 & 4	3 & 4	3 1/2 & 4 1/2	3 1/2 & 4 1/2	4 & 5	4 1/2 & 6
Length of floor space required, in ins....	106	106	106	127	127	127	136	136	142	168	168
Width of floor space required, in inches..	80	80	80	91	91	91	112	112	112	123	123
Shipping weight, engine complete, in lbs.	3,700	4,000	4,400	6,000	6,400	6,800	9,100	9,500	9,800	15,100	17,000
Engine complete.....	\$540	\$590	\$660	\$780	\$850	\$950	\$1,040	\$1,160	\$1,280	\$1,650	\$2,080
Foundation bolts and plates, add.....	7	8	10	11	13	14	14	14	17	20	22

With engine ordered complete we furnish outboard bearing with adjustable sole plate, band wheel with shaft governor, throttle valve, wipe oiler for cross head, centrifugal oiler for crank pin, drip oiler for eccentric, sight feed cylinder lubricator with connections, oil cups, valves for drain pipes, oil can, wrenches and foundation plans.

Foundation bolts and plates and anything else ordered will be charged for extra.



3794 DN

FROST THROTTLING SELF-CONTAINED CENTER-CRANK ENGINES, PLATE 3794 DN

Horse-power with 35 lbs. M. E. P.....	12	17	29	37	45	53	63
Diameter of cylinder and length of stroke, in inches.	6 x 9	7 x 9	8 x 13	9 x 13	10 x 13	11 x 14	12 x 14
Revolutions per minute.....	275	275	250	250	250	225	225
Diameter and face of band wheel, in inches.....	36 x 6	42 x 6	54 x 10	54 x 10	54 x 12	54 x 14	54 x 14
Weight of band wheel, in pounds.....	275	300	500	700	900	1,500	1,700
Diameter and face of drive pulley, in inches.....	20 x 8	24 x 8	30 x 10	36 x 10	36 x 12	36 x 12	36 x 14
Diameter of shaft, in inches.....	2 11/16	2 11/16	3 1/16	3 1/16	3 1/16	4 1/16	4 1/16
Diameter of steam and exhaust pipe, in inches.....	1 1/2 & 2	1 1/2 & 2	2 & 2 1/2	2 & 3	2 & 3	2 1/2 & 3 1/2	3 & 4
Length of floor space required, in inches.....	75	75	109	109	109	115	115
Width of floor space required, in inches.....	41	41	55	55	55	68	68
Shipping weight, engine complete, in pounds.....	1,300	1,600	3,500	3,800	4,100	5,700	6,000
Engine complete.....	\$280.00	\$320.00	\$380.00	\$440.00	\$500.00	\$580.00	\$630.00
For foundation bolts, add.....	3.00	3.00	4.00	6.00	6.00	10.00	12.00
For balanced slide valve, add.....	.....	.....	12.00	15.00	17.00	18.00	20.00
Without band or fly-wheel, deduct.....	10.00	14.00	21.00	35.00	50.00	60.00	80.00
Without governor, deduct.....	18.00	18.00	21.00	21.00	21.00	30.00	38.00
Without throttle valve, deduct.....	2.00	2.00	3.00	3.00	3.00	4.00	6.00

When engine is ordered complete, we furnish band wheel, drive pulley, automatic stop-motion governor, governor belt, throttle valve, sight feed cylinder lubricator with connections, oil cups, valves for drain pipes, oil can, wrenches and foundation plans.

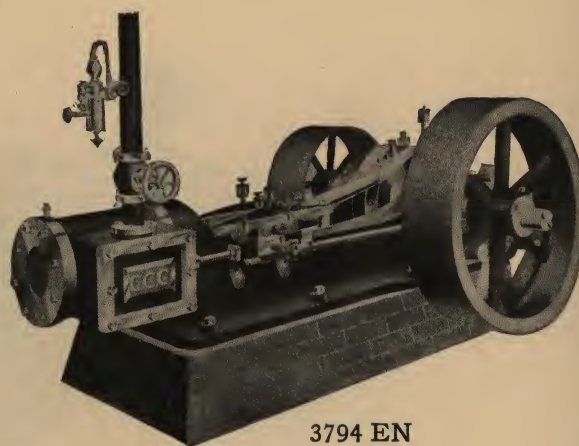
Foundation bolts and plates and anything else ordered will be charged for extra.



AUTOMATIC CENTER CRANK ENGINE, PLATE 3794 EN

This engine is made in the same thorough manner as our throttling governor engine, but is regulated by an improved device contained in the fly-wheel. The speed of the engine can be regulated either by altering the tension of the spring or by changing the position of the weights on the weight levers—increasing the tension to increase the speed, and decreasing it to run engine slower, or moving the weights nearer the fulcrum to increase the speed and nearer the end of the levers to reduce it. Moving the weights is always to be preferred where it is possible. Care must be taken to keep the valve and cylinder perfectly lubricated, for if the valve is allowed to run dry, it interferes with the smooth action of the governor. This engine has balance valve.

Trimmings—A complete set of nickel-plated glass oilers, sight feed, lubricator, throttle valve and two cylinder cocks.



3794 EN

Dimensions of Automatic Center Crank Engines. Based on 80 Pounds Initial Pressure

Horse Power	CYLINDER		Shaft	BALANCE WHEEL		PULLEY		PIPES		Revolutions per Minute	Weight	Weight with Sub-Base	FLOOR SPACE	
	Diameter	Stroke		Diameter	Face	Diameter	Face	Steam	Exhaust				Length Inches	Width Inches
5	4	5	1½	20	6	12	4½	¾	1	350	625	775	42	30
6	4½	5	1½	20	6	12	4½	¾	1	350	675	825	42	30
7	5	6½	2	24	6	14	6½	1	1¼	325	750	975	52	36
8	5½	6½	2	24	6	14	6½	1	1¼	325	875	1,100	52	36
10	6	8	2½	30	6¾	16	6½	1¼	1½	275	1,100	1,425	64	42
12	6½	8	2½	30	6¾	16	6½	1¼	1½	275	1,200	1,525	64	42
15	7	8	2½	30	6¾	18	8	1½	2	265	1,350	1,675	64	42
18	7½	8	2½	30	6¾	18	8	1½	2	265	1,450	1,775	64	42
20	7½	10	3⅞	35	6¾	20	10	1½	2	260	1,550	2,100	81	48
25	8	10	3⅞	35	6¾	20	10	2	2½	265	1,750	2,350	81	48
30	8½	10	3⅞	35	6¾	20	10	2	2½	265	2,100	2,750	81	48
35	9½	10	3⅞	35	6¾	24	12	2½	3	260	2,400	3,050	81	48
40	9½	12	3⅞	40	10½	26	12	2½	3	250	3,200	4,000	97	60
45	10	12	3⅞	40	10½	26	12	2½	3½	250	3,500	4,300	97	60
50	11	12	3⅞	40	10½	26	14	2½	3½	250	3,800	4,700	97	60
55	10½	14	4⅞	48	13	28	14	2½	3½	250	4,400	5,900	116	74
60	11	14	4⅞	48	13	28	14	3	4	250	4,600	6,100	116	74
65	11½	14	4⅞	48	13	28	14	3	4	250	4,800	6,300	116	74
70	12	14	4⅞	48	13	30	14	3	4	250	5,000	6,500	116	74
75	12½	14	4⅞	48	13	30	14	3	4	250	5,400	6,900	116	74
80	12	16	4⅞	54	15	34	16	3	4	225	5,700	7,700	133	79
85	12½	16	4⅞	54	15	34	16	3	4	225	6,100	8,100	133	79
95	13	16	5¼	54	16	36	16	3½	4½	225	6,500	8,500	133	79
110	14	16	5¼	60	16	36	16	3½	4½	225	7,100	9,100	133	79
118	14½	16	5¼	60	16	36	16	3½	4½	225	7,400	9,400	133	79
125	15	16	5¼	60	16	36	16	4	5	225	7,700	9,700	133	79

CLARK PLAIN VERTICAL ENGINES, PLATE 3794 FN

With throttling governor.

These engines are of the center crank type, thoroughly well built and of the best materials. All sizes over 7½x10 have balance valve.

Every point that could add to the durability and strength has been carefully considered.

We have a large number in use for all kinds of purposes in various parts of the country with the best possible results.

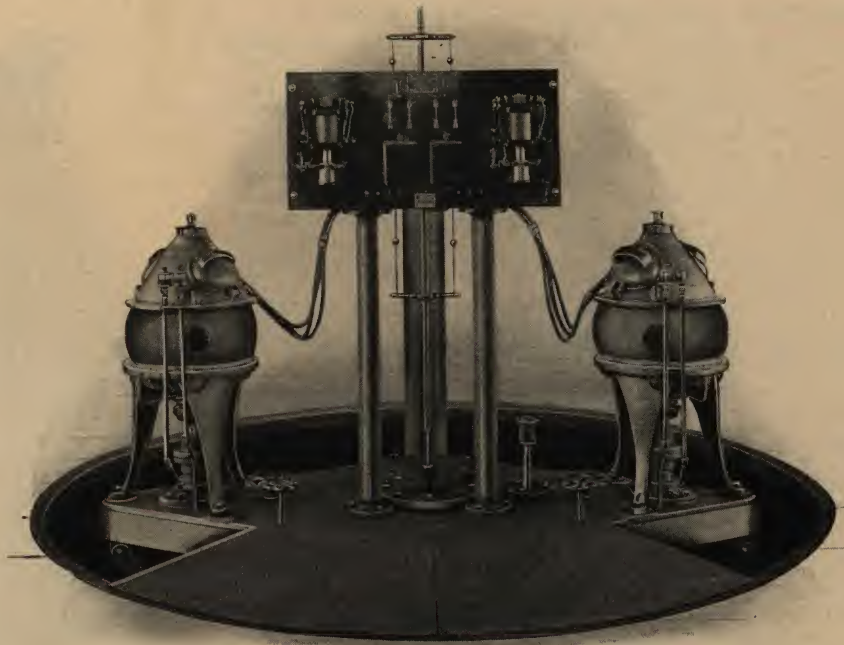
Dimensions of Plain Vertical Center Crank Engines. Based on 80 Pounds Initial Pressure

Horse Power	CYLINDER		Shaft Diameter	BALANCE WHEEL		PULLEY		PIPES		Revolutions per Minute	Weight	HEIGHT	
	Diameter	Stroke		Diameter	Face	Diameter	Face	Steam	Exhaust			Floor to center of Shaft	Floor to Top of Cylinder
1½	2½	3½	1⅞	13	3½	6	3½	¾	½	400	200	9¼	31½
2	3	4½	1½	16	4½	10	4½	½	¾	350	370	10	40
3	3½	4½	1½	16	4½	10	4½	½	¾	350	390	10	40
4	4	5	1½	17	4½	12	4½	¾	1	325	495	10⅝	46
5	4½	5	1½	17	4½	12	4½	¾	1	325	505	10⅝	46
6	5	6½	2	20	6	14	6½	1	1¼	250	790	12¼	53¼
7	5½	6½	2	24	6	14	7	1	1¼	250	835	12¼	53¼
8	6	8	2½	24	6	16	7	1¼	1½	200	1,210	14½	62
9	6½	8	2½	24	6	16	7	1¼	1½	200	1,250	14½	62
10	7	8	2½	26	6¾	18	8	1½	2	200	1,500	16⅝	64½
12	8	8	2½	26	6¾	18	8	1½	2	175	1,600	16⅝	64½
15	7½	10	2⅞	30	6¾	20	8	1½	2	175	1,800	12¼	69¼
18	8	10	2⅞	35	6¾	20	10	2	2½	175	1,880	12¼	69¼
20	9½	10	2⅞	35	6¾	24	10	2	2½	165	2,000	18⅞	69¼
25	10	10	2⅞	35	6¾	24	10	2½	3	165	2,200	18⅞	83
30	10	12	3⅞	40	10½	26	12	2½	3½	165	2,600	18⅞	83
35	11	12	3⅞	40	10½	26	12	2½	3½	165	2,800	18⅞	83
40	11	14	4⅞	40	10½	28	14	3	4	165	3,600	21	91
45	12	14	4⅞	40	10½	30	14	3	4	165	3,900	21	91
50	13	14	4⅞	48	12½	30	14	3	4	165	4,500	21	91
55	13½	14	4⅞	48	12½	30	14	3	4	165	4,700	21	91
60	14	14	4⅞	48	12½	30	16	3½	4	165	5,000	21	91



3794 FN

With each engine we furnish governor and pulley, governor belt, oil cups, throttle valve, cylinder lubricator, belt pulley and balance wheel complete and ready for starting. These engines and vertical boilers furnished on combined bases if desired.



2701 N

YEOMANS DUPLEX ELECTRIC SEWAGE EJECTOR, PLATE 2701 N

Form A. Suction Type.

The Yeomans Form A ejector consists of a central cast iron or concrete receiver to which the building drains are connected and which supports at the floor level a cast iron plate which serves both as cover for the receiver and as base plate for the motors and controllers.

The pumps, of the bottom suction, vertical, centrifugal type, are connected to the base of the receiver by valved suction pipes. The discharge of either pump is fitted with swing check valve and gate valve, and the two discharges are brought together into a "Y" fitting of ample area to handle the capacity of the two pumps simultaneously.

The pumps and motors are direct connected by means of flexible shaft couplings. When the depth of the ejector is such that the distance between the pumps and the floor level exceeds 6 or 7 feet, intermediate guide bearings for the shaft are furnished, these bearings being mounted on the vertical wall of the receiver. The above construction makes the entire apparatus self-contained, so that possible settling of pit walls or foundations can have no effect upon the alignment of the moving parts.

Auxiliary suction pipes, with gate valves, attached to the pump suction connections, provide a means of removing water from the ejector pit, which should always be kept dry and accessible. On this type of ejector the pit must be at least 4 feet deeper than the lowest drain discharging into the receiver.

Within the receiver a heavy galvanized iron bar screen is provided, the mesh being such as will pass ordinary soil, paper, etc., but will intercept heavy foreign matter.

The motors are vertical shaft, semi-enclosed, slow-speed type and have their own thrust bearings, so that they operate in this respect independently of the pump shaft bearings. All of our direct-current ejector motors are of the latest multipolar type with commutating poles, compound wound, specially constructed for our machines, absolutely free from sparking and capable of carrying heavy overloads.

Controllers mounted on slate panels are located on the receiver cover and between the motors. Main line switches with fuses, automatic float switches and self starters are provided for both motors.

All polyphase alternating-current machines are equipped with the Yeomans protective relay which positively prevents burn-out of motor due to introduction of current single phase. The automatic starters are actuated by a reinforced copper column float, running in an 8-inch pipe casing which is suspended from the receiver cover. By means of adjusting buttons the controllers may be set so that one unit will take care of the ordinary service, but if for any reason that unit should fail to operate or if the flow to the ejector should exceed its capacity, the other machine will instantly start.

Each ejector is supplied with a high water alarm device which rings an alarm bell if the water level in the sewage receptacle rises above the point at which the pumps are set to start.

The ejector pumps are entirely independent of each other so that one unit may be entirely dismantled without interruption in the operation of the other. The pumps, bearings, shafts, etc., are at all times accessible without the necessity of opening the receiver. All gate valves have extension stems to floor level.

Quantity discharged per day, 15,600 gallons. Cost of current per day, 15 cents, or about 1 cent for every 1,000 gallons.

Form A, Suction Type, as illustrated.

Number	1	1	2	2	3	3	4	4
Gallons per minute, each unit.....	75	100	150	200	200	300	400	500
Diameter pit, feet.....	8	8	8	8	8	8	10	10
Diameter discharge, inches.....	4	4	6	6	6	6	8	8
Maximum head, feet.....	20	30	20	30	20	30	20	30
H. P. each unit.....	2	3	3	5	5	7½	7½	10
Revolutions per minute, approximate.....	550	850	550	850	550	850	550	850
Shipping weight, pounds.....	9,500	9,500	10,000	10,000	11,000	11,000	15,000	15,000
Direct current	\$2,600.00	\$2,600.00	\$2,800.00	\$2,800.00	\$3,200.00	\$3,200.00	\$4,000.00	\$4,000.00
Two to three-phase.....	2,600.00	2,600.00	2,800.00	2,800.00	3,200.00	3,600.00	4,600.00	4,600.00
Single-phase	2,800.00	2,800.00	3,250.00	3,250.00	3,650.00	4,000.00	5,000.00	5,000.00

Prices do not include ejector pit, which must be at least 4 feet deeper than deepest inlet. (Concrete pit may be used.) Prices include semi-circular guard rail and floor plates. Discharge connections are made up with valves and fittings and brought together in a Y fitting. Pit for No. 4 ejector must be at least 5 feet deeper than lowest inlet.



YEOMANS SUBMERGED TYPE EJECTOR, PLATE 2702 N

Yeomans submerged type duplex ejector is offered for use in basements where comparatively small quantities of soil are to be handled, and where immediate and easy access to the working parts is not essential. The ejector is ordinarily constructed with a cast iron pit, into which the sewage flows, there being no separate receiver. The pumps are suspended by flanged pipe hangers from cast iron plates, which are mounted on the cast iron cover of the pit. The discharge pipe from each pump being brought up through the plate from which the pump is suspended, either unit may be entirely withdrawn from the pit without disturbing the other and without the necessity of getting down into the pit. The motors are mounted on the pump plates and direct connected to pump shafts by flexible couplings, and the construction and operation of the automatic controllers, high-water alarm, etc., are the same as in our other types of ejector.

The submerged ejector may be modified for installation in pits of any depth and shape. In large equipments the pit is usually built of concrete and the cast iron cover mounted on I-beam supports. This ejector affords great storage capacity and is a very simple and reliable machine.

Prices include gate and check valves for each unit. Basins or pits are extra. Cast iron basins, 4 ft. diameter, not over 5 ft. deep, weight 2,000 lbs., each... \$220.00
 Cast iron basins, 5 ft. diameter, not over 5 ft. deep, weight 4,000 lbs., each... 400.00
 Sheet steel basins, 4 ft. diameter, not over 5 ft. deep, weight 1,000 lbs., each... 170.00
 Sheet steel basins, 5 ft. diameter, not over 5 ft. deep, weight 3,000 lbs., each... 220.00

Get special prices for higher heads. Polyphase are equipped with protective relays. D. C. and polyphase motors are intermittent duty. One-phase are continuous duty.

Speeds below subject to change. All prices are for drains not over 3 feet below floor level and for basins not over 5 feet deep.

For ejectors without basin, suitable for basins of extra depth, add 5 per cent net for 7 feet, 1 per cent net for each foot after 7 feet.

Cast Iron Basins.—For basins of extra depth add, if 4 feet diameter, \$40.00—400 lbs. per foot. If for 5 feet diameter, \$60.00—600 lbs. per foot. Basins over 8 feet deep, 4 feet diameter, \$80.00 per foot; 5 feet diameter, \$120.00 per foot, made in two sections.



2702 N

Price, without basins, with 2 gates and 2 checks.

Number	3	3	3	3	4	4	5	5
Gallons per minute, each unit.....	75 to 100	75 to 100	75 to 100	75 to 100	150 to 200	150 to 200	200 to 300	200 to 300
Diameter pit, inches.....	48	60	48	60	60	60	60	60
Diameter discharge, inches.....	3	3	3	3	4	4	4	4
Max. head, feet.....	15	15	30	30	15	30	20	30
H. P., each unit.....	2	2	3	3	3	5	5	7½
Revolutions per minute, approximate	550	550	850	850	550	850	550	850
Shipping weight, lbs., without basin...	2,800	3,550	2,800	3,550	4,800	4,800	5,500	5,500
Direct current	\$1,150.00	\$1,250.00	\$1,150.00	\$1,250.00	\$1,500.00	\$1,500.00	\$1,850.00	\$1,960.00
Polyphase.....	.....	.....	1,270.00	1,370.00	1,550.00	1,550.00	1,800.00	2,300.00
Single-phase .....	.....	.....	1,230.00	1,330.00	1,750.00	1,750.00	2,000.00	2,170.00

Sheet Steel Basins.—For basins of extra depth add, for each extra foot, if 4 feet diameter, \$14.00—120 lbs.; if 5 feet diameter, \$20.00—200 lbs. Basins over 8 feet deep, 4 feet diameter, \$50.00 per foot; 5 feet diameter, \$100.00 per foot.

No float pipe used on No. 1 size. High-water alarm, \$30.00 extra; screens, \$10.00 extra, each. 500 volts, D. C., 3 per cent net extra.

Ejector No. 1 prices based on standard bilge construction only, series motors, separate float switches, no float pipes. If standard ejector construction desired, i. e., compound motors, resistance starters on double board, float pipe, add \$200.00 to above prices.

YEOMANS AUTOMATIC BILGE PUMP, PLATE 2703 N

Yeomans automatic bilge pumps are designed to meet the demand for a simple, positive and automatic method of elevating to street sewer the sub-drainage in buildings in which basements, boiler rooms, elevator pits, etc., are below the street sewer level, or for any other service where the liquid to be pumped accumulates in a receiving basin or pit. This service requires an outfit that needs the minimum of attention, occupies little floor space, and is of the simplest and most rugged construction. These pumps can be used (excepting No. 2 size and smaller) for handling limited quantities of sewage, in which case a special construction is used, which is designated "Type B." This type has a gas-tight cover, with stuffing boxes for shaft and float rod.

Prices include C. I. cover for catch basin of diameter shown in column three, automatic control equipment with knife switch and fuses. Two and three-phase outfits supplied with Yeomans protective relays. Prices do not include catch basins.

For 500-volt add 5 per cent. For "Type B" cover, with stuffing boxes and gaskets, add \$30.00. The prices cover pumps for catch basin not over 6 feet deep. For greater depth add 5 per cent for 7 feet and 1 per cent for each additional foot.



2703 N

Pump No.	Capacity, Gallons per Minute	Diameter Basin, Inches	H. P. Motor	R. P. M. at Heads			Weight, Pounds	Prices, 110 or 220 Volts		
				10 Feet	10-20 Feet	20-30 Feet		D. C.	A. C., 2-3 Ph.	A. C., 1 Ph.
½	15-25	24	½-1	1,000	1,800	1,800	550	\$ 250.00	\$.....	\$.....
½	15-25	24	½-1	1,165	1,750	1,750	550	.....	330.00	.....
1	35-50	36	¾-1	1,000	1,500	1,800	870	340.00	.....	.....
1	35-50	36	¾-1	1,120	1,700	1,700	870	.....	380.00	350.00
2	50-75	36	1-2	550	850	1,200	1,000	350.00	.....	.....
2	50-75	36	1-2	850	850	1,120	1,000	.....	440.00	460.00
3	100-125	36	1½-3	550	850	1,200	1,200	470.00	.....	.....
3	100-125	36	1½-3	850	850	1,120	1,200	.....	510.00	530.00
4	150-200	36	2½-5	550	550	850	1,500	590.00	.....	.....
4	150-200	36	2½-5	850	850	Special	1,500	.....	620.00	720.00
5	300-400	48	5-7½	850	850	Special	2,000	780.00	.....	.....
5	300-400	48	5-7½	850	850	.....	2,000	.....	770.00	.....
5	300-400	48	5-7½	850	850	1,120	2,000	.....	980.00	.....
5	300-400	48	5-7½	850	850	1,120	2,000	.....	.....	920.00

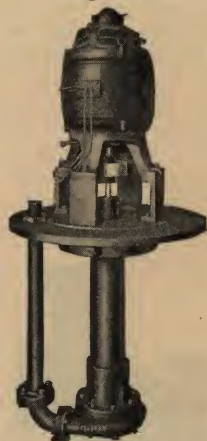


Fig. 3013-A



2705 N

Fig. 3013



2704 N

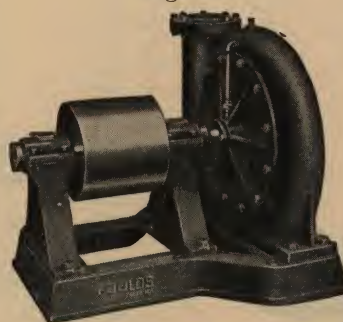
GOULDS ELECTRIC SUMP PUMPS, PLATE 2704 N AND PLATE 2705 N

The Gouls electric centrifugal sump or bilge pump is designed to meet the demand for an automatic electric pump to elevate to street sewers the drainage in buildings where the basement floors, boilers and elevator pits are below sewer level, and for any other service where the liquid to be pumped accumulates in a catch basin, pit or tank.

We can also furnish duplex bilge pumps or ejectors for the same service. For service where electric current is not available, Fig. 3013-A, arranged for belt drive, can be used.

Full information and prices on pumps to meet any conditions will be given on application.

Fig. 3000



2706 N

GOULDS CENTRIFUGAL PUMP, PLATE 2706 N

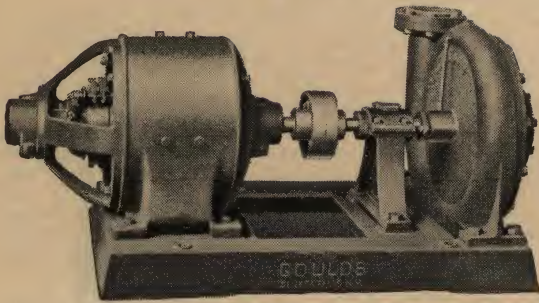
Gouls horizontal single-stage, open-type impeller centrifugal pump, for capacities 30 to 4,200 gallons per minute and for heads up to 100 feet.

Number	1	1½	2	2½	3	4
Size discharge pipe, inches	1	1½	2	2½	3	4
Size suction, inches	1½	2	3	3	4	5
Capacity, gallons per minute	30	70	120	200	270	470
Size pulley, inches	4x3	5x5	6x6	6x7	7x7	10x10
Iron, each	\$30.00	\$ 45.00	\$ 75.00	\$ 90.00	\$110.00	\$155.00
Brass fitted, each	40.00	60.00	100.00	120.00	145.00	190.00
Brass, each	55.00	110.00	190.00	220.00	260.00	375.00
Number	5	6	8	10	12	
Size discharge pipe, inches	5	6	8	10	12	
Size suction, inches	6	8	10	12	15	
Capacity, gallons per minute	750	1,050	2,000	3,000	4,200	
Size pulley, inches	12x12	14x14	16x14	18x16	20x18	
Iron, each	\$200.00	\$240.00	\$310.00	\$395.00	\$500.00	
Brass fitted, each	260.00	350.00	500.00	700.00	950.00	
Brass, each	600.00	750.00	.....	.....	.....

We can furnish these pumps direct-connected to electric motors, gasoline engines, steam turbines or steam engines. Prices and full particulars upon application.



Fig. 3004



3794 GN

GOULDS SINGLE-STAGE SINGLE SIDE SUCTION OPEN IMPELLER TYPE CENTRIFUGAL PUMP, PLATE 3794 GN

For elevations up to 100 feet.

Fig. 3004 illustrates the Goulds single-stage single side suction horizontal shaft centrifugal pump, direct connected to an electric motor. The pump and the motor are mounted upon an extended cast iron base-plate, making the unit practically self-contained. The pump and the motor are direct connected by means of a suitable coupling of flexible type. Pump is made in eleven sizes with capacities ranging from 20 to 5,000 gallons per minute. Dimensions and foundation plan will be furnished when requested upon receipt of data covering the driver. Complete information in Bulletin 105 on request.

GOULDS SINGLE-STAGE SINGLE SIDE SUCTION ENCLOSED IMPELLER TYPE CENTRIFUGAL PUMP, PLATE 3794 HN

For elevations up to 100 feet.

Goulds Fig. 3025 horizontal single-stage single suction enclosed impeller centrifugal pump has been developed to meet the demand for high efficiency in a moderately priced pump. It is a higher speed line than the Fig. 3004, and is designed especially for direct connection to electric motors. The pump casing can be swiveled, allowing the discharge to be placed in any one of eight different positions.

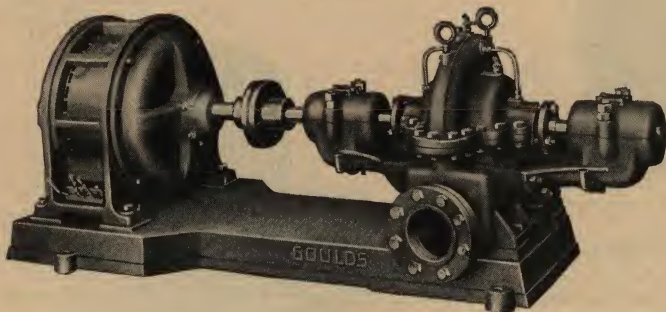
Made in five sizes with capacities ranging from 80 to 1,000 gallons per minute. Pump is very compact, with floor space varying from 23x35 inches to 36x57 inches. Complete data in Bulletin 119 furnished upon application.

Fig. 3025



3794 HN

Fig. 3030



3794 IN

GOULDS SINGLE-STAGE DOUBLE SUCTION ENCLOSED IMPELLER TYPE CENTRIFUGAL PUMP, PLATE 3794 IN

For elevations up to 150 feet.

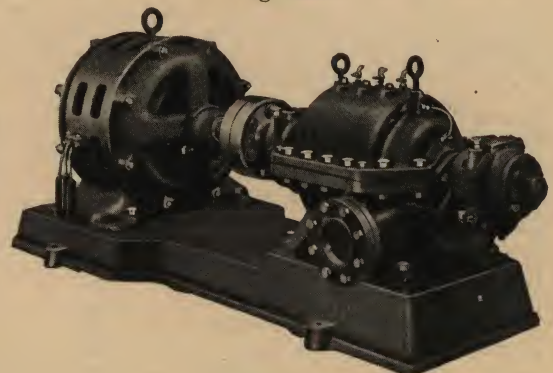
Fig. 3030 is distinguished from Fig. 3004 in that the impeller is of the enclosed type and takes its suction from both sides instead of from one side only. The pump is of the horizontally divided type. This is the most accessible form of construction for inspection and repairs that has yet been devised, and it is unnecessary to disturb pipe connections when opening the case for examination. Pump is made in capacities ranging from 80 to 12,500 gallons per minute. Complete information in Bulletin 110.

GOULDS MULTI-STAGE CENTRIFUGAL PUMP, PLATE 3794 KN

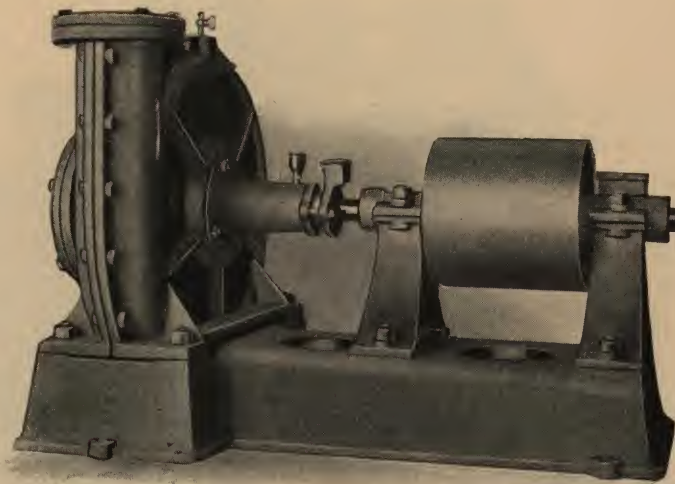
For elevations up to 700 feet.

For installations where the head is greater than can be efficiently generated in a single-stage pump, we offer the Fig. 3300 horizontal multi-stage high lift centrifugal pump. This pump is in effect a combination of two or more pumps within a single casing, having but one shaft and one set of bearings and stuffing boxes. This pump is particularly suitable for general water supply, hot water circulating in heating systems, for boiler feeding, booster or mine service, hydraulic pressure and elevator service, marine uses, pumping brine, etc., where the total net head is greater than can be generated by a single-stage pump. Pump is made in six sizes with capacities ranging from 50 to 1,500 gallons per minute. Full information contained in Bulletin 120, which will be mailed on request.

Fig. 3300



3794 KN



3794 LN

MORRIS IMPROVED HORIZONTAL PUMPS, PLATE 3794 LN

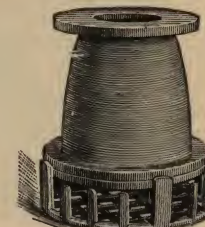
No. Pump (Diameter Discharge Opening)	Size Pipe Flange on Suction, Inches	Economical Capacity in Gallons per Minute	Horse-Power Required for each Foot Elevation	Diameter and Face of Pulley, in Inches	Floor Space Required in Inches, With- out Primer	Shipping Weight With- out Primer, Lbs.	Shipping Weight With Primer, Lbs.	Price Without Primer	Price With Primer	Price Extra if Brass Fitted	No. Pump
1	1 1/4	30	.025	4x 3 1/4	12x 17	85	.....	\$ 30	....	\$ 9	1
1 1/2	2	70	.058	6x 6	17x 31	175	220	45	\$ 60	12	1 1/2
1 3/4	2	90	.075	7x 8	21x 32	260	305	60	75	15	1 3/4
2	3	120	.10	8x 8	23x 37	350	415	75	95	18	2
2 1/2	3	180	.15	8x 8	24x 38	360	430	90	110	22	2 1/2
3	4	260	.22	8x 8	25x 39	415	495	110	135	25	3
4	5	470	.30	10x10	29x 41	615	720	130	160	40	4
5	6	735	.45	12x12	34x 54	940	1,075	165	200	60	5
6	8	1,050	.59	15x12	37x 55	1,180	1,345	200	245	90	6
8	10	2,000	1.00	20x12	45x 64	2,065	2,430	310	375	130	8
10	12	3,000	1.52	24x12	51x 69	2,610	2,940	395	470	165	10
12	15	4,200	2.00	30x14	63x 71	3,615	.....	500	...	275	12
12*	12	4,200	2.00	20x12	51x 59	2,800	.....	500	...	...	12*
15	18	7,000	3.50	40x15	77x 80	8,250	.....	850	...	...	15
15*	18	7,000	3.50	30x15	60x 68	3,350	.....	710	...	...	15*
18	20	10,000	4.50	40x16	93x103	9,000	.....	1,300	...	...	18
18*	20	10,000	4.50	30x16	66x 72	5,800	.....	1,150	...	...	18*
20	22	12,000	5.00	36x20	73x 83	7,000	.....	1,600	...	...	20
24*	24	15,000	5.50	48x20	90x 98	10,800	.....	2,150	...	...	24*
24	24	15,000	5.50	48x36	94x137	.....	.....	.....	...	...	24
30	30	22,000	8.00								30
36	36	32,000	11.00								36
42	42	44,000	15.00								42
48	48	56,000	19.00								48

Prices and specifications for pumps above 20-inch furnished on application.

*Refers to Low-Lift Pumps, which are recommended for heads up to 40 feet.



3794 MN



3794 PN

FLAP VALVES (FLANGED), PLATE 3794 MN

Flap Valve used on end of discharge pipe, to prevent air from entering pipe when using ejector.

It opens and closes automatically.

For pump No.	1 1/2	1 3/4	2	2 1/2	3	4	5	6
Each	\$5.00	\$6.00	\$8.00	\$9.00	\$9.00	\$13.00	\$19.00	\$22.00
For pump No.	8	10	12*	15	18	20	24	
Each	\$28.00	\$36.00	\$44.00	\$60.00	\$88.00	\$100.00	\$125.00	

FOOT VALVES (FLANGED), PLATE 3794 PN

Foot Valves are placed at bottom of suction pipe, to hold column of water and keep pump primed.

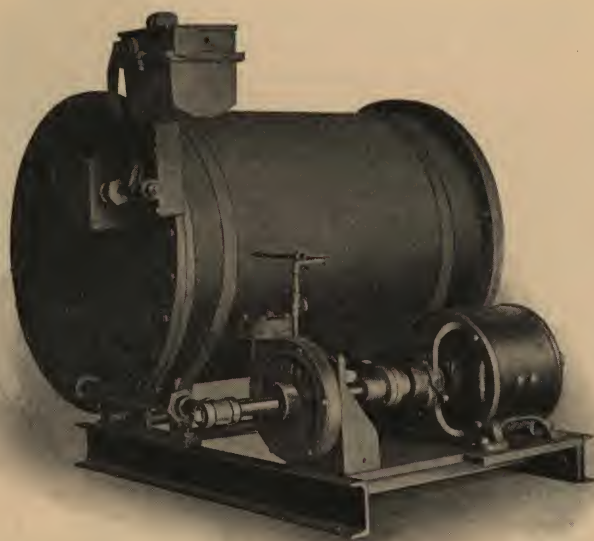
Strainer is not furnished unless ordered.

For pump No.	1 1/2	1 3/4	2	2 1/2	3	4	5	6
Iron valves...	\$5.50	\$6.00	\$7.00	\$8.00	\$9.00	\$12.00	\$15.00	\$20.00
Brass valves...	10.00	11.00	13.00	15.00	18.00	25.00	35.00	40.00
For pump	No.	8	10	12	15	18	20	24
Iron valves...	\$30.00	\$40.00	\$50.00	\$75.00	\$110.00	\$140.00	\$175.00	
Brass valves	.....	.....	.....	.....	.....	.....	.....	.....



**YEOMANS CONDENSATION RETURN PUMP,
PLATE 3500 N**

In many low-pressure heating plants it is difficult to get proper results by gravity return, and in some cases the return pipes are so low that means must be provided for forcibly returning condensation to boilers. The automatic electric condensation return pump illustrated has proven very efficient under such conditions and has resulted in large savings in fuel. Outfits are of rigid construction, compact and self-contained. The receiver is of cast iron, with cast iron heads, and a heavy copper float actuates an enclosed controlling switch of the butt-contact type which can be easily adjusted for different predetermined water levels. A gauge glass with valves is provided in one end of receiver. These outfits are shipped assembled, ready for pipe and electrical connections.

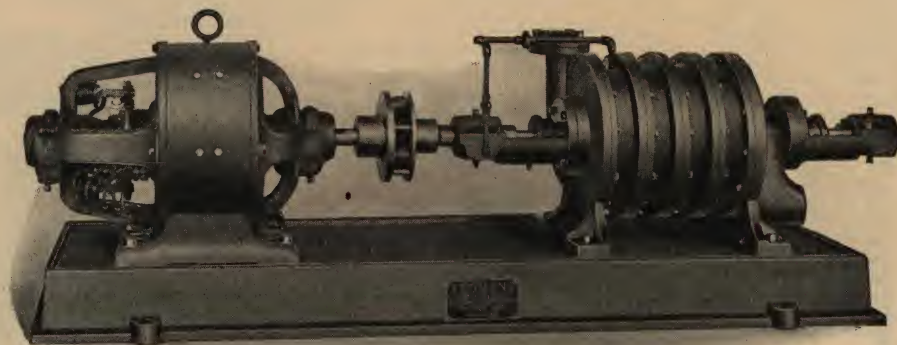


3500 N

Number	1	2	3	4	5	6
Maximum square feet of radiation.....	1,000	3,000	6,000	10,000	15,000	30,000
Gallons per minute.....	5	10	15	20	30	60
H. P. of motor.....	1/2	1/2	3/4	3/4	1	2
Approximate shipping weight.....	700	725	750	1,000	1,100	1,200
Direct-current, 110-220 volts, each.....	\$250.00	\$260.00	\$270.00	\$320.00	\$330.00	\$380.00
One-phase, 60-cycle, 110-220 volts, each.....	260.00	270.00	280.00	340.00	350.00	390.00
Three-phase, 60-cycle, 110-220 volts, each.....	300.00	310.00	320.00	360.00	370.00	400.00

Prices are for 25-foot head or 10 pounds boiler pressure. For pressures above 10 pounds, or for voltages other than 110 or 220 volts, prices on application.

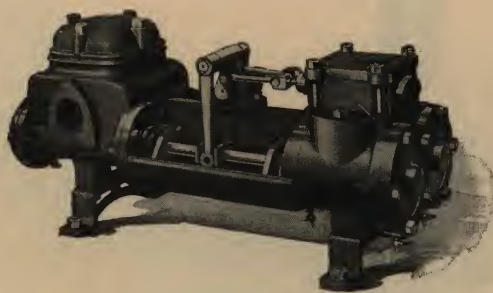
Nos. 1, 2 and 3 pumps have 20x30-inch receiver. Nos. 4, 5 and 6 pumps have 24x36-inch receiver.



3501 N

YEOMANS FIVE-STAGE HOUSE PUMP, PLATE 3501 N

The above illustrated and other types of single and multi-stage or turbine pumps can be furnished for any capacity or head; also underwriters' fire pumps, combination sprinkler pumps, hot and cold water circulating pumps, brine pumps, acid pumps, pneumatic systems, mine service and sinking pumps, rotary pumps, plunger type pumps, and others for every conceivable use and for any method of drive, such as belt, motor, steam, engine or turbine, internal combustion engines, etc., but in order to quote intelligently we must have complete data, and with this in view, we will, upon request, furnish standard information sheets for this purpose.



3502 N

DUPLEX BOILER FEED PUMP, PLATE 3502 N

Table of Sizes and Capacities.

Sizes of Pipes for Short Lengths, to be increased as Length increases.

Number	Diameter of Steam Cylinders	Diameter of Water Cylinders	Length of Stroke	H. P. Boiler will feed, based on 6 gallons water per hour, at stated number of strokes.	Steam Pipe	Exhaust Pipe	Suction Pipe	Discharge Pipe	Weight, Pounds	Regular Fitted, Each	Brass Fitted, Each
0	2½	1½	3	70 Strokes, 30 H. P.	⅜	½	1	¾	130	\$ 50.00	\$ 50.00
00	3	2	3	60 Strokes, 50 H. P.	⅜	½	1¼	1	180	55.00	60.00
1½	4	2½	4	50 Strokes, 80 H. P.	½	¾	1½	1¼	270	85.00	91.00
2	4½	3	4	50 Strokes, 120 H. P.	½	1	2	1½	330	92.50	100.00
3	5¼	3½	5	50 Strokes, 210 H. P.	¾	1¼	2½	2	470	120.00	130.00
4	6	4	6	50 Strokes, 330 H. P.	1	1½	3	2	630	140.00	154.00
4A	7	4½	6	50 Strokes, 420 H. P.	1¼	1½	4	3	850	195.00	211.00
5	7	4½	10	40 Strokes, 550 H. P.	1½	2	4	3	1,100	260.00	278.00
6	8	5	10	40 Strokes, 680 H. P.	1½	2	5	4	1,700	325.00	349.00
7	10	6	10	40 Strokes, 975 H. P.	2	2½	5	4	1,800	400.00	424.00
8	12	7	12	40 Strokes, 1,600 H. P.	2½	3	6	5	3,500	575.00	607.00

The sizes listed above represent our standard feed pumps for working pressures not to exceed 175 pounds per square inch. These pumps are of the packed piston type and are regularly provided with brass liners in the water cylinders. The valves of either rubber or composition, as may be preferred. In ordering, specify the kind required, and if no preference, whether the water is hot or cold.



AUTOMATIC PUMP AND RECEIVER, PLATE 3503 N

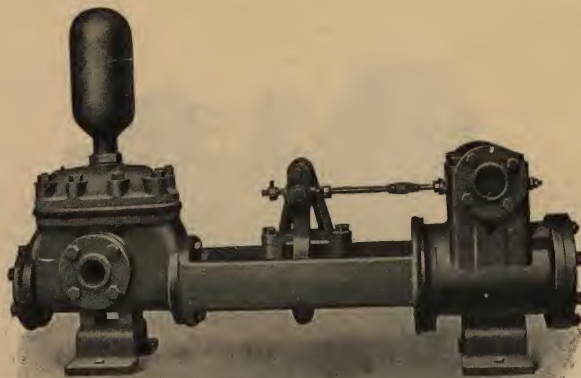
The condensed steam flows from the coils into the pump and receiver, in which is a hollow float. When the float rises with the water in the receiver, the pump starts and the speed is regulated according to the quantity of water flowing in. The pump slows down or stops as the supply of water decreases. The copper floats are tested to 300 pounds and guaranteed not to collapse.

3503 N

Number	0	1	1½	2	3	4	5	6
Size of pump	2½x1½x3	3x2x3	4x2½x4	4½x3x4	5¼x3½x5	6x4x6	7x4½x6	7x4½x10
Gallons delivered per minute	6	12	15	20	35	60	75	100
Square feet of radiating surface it will drain	2,500	5,000	7,000	10,000	20,000	40,000	50,000	80,000
Inside dimensions of receiver	12½x18½	12½x18½	14½x21	14½x21	16¾x24½	16¾x24½	20x34	20x34
Shipping weight, pounds	400	440	670	760	1,050	1,300	1,750	2,050
Each	\$120.00	\$130.00	\$170.00	\$185.00	\$220.00	\$250.00	\$350.00	\$400.00

All pumps full brass fitted, having brass liners in water cylinders, brass or brass-lined stuffing boxes in water end and Tobin bronze rods.

The above pumps can be arranged with water pistons of smaller diameters to adapt them for low-pressure steam heating work, which reduces the above ratings.



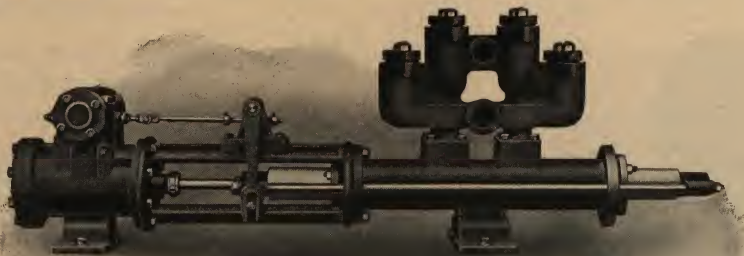
3794 QN

BLAKE-KNOWLES SINGLE HORIZONTAL BOILER FEED OR PRESSURE PUMPS—PISTON PATTERN, PLATE 3794 QN
Style "A" Simplex.

Maximum Working Pressure: Steam End, 250 lbs.; Water End, up to and including 14x8x12, 250 lbs., 16x10x18, 150 lbs., only.

Size, Inches			Gallons Per Stroke	Maximum Capacity Per Minute			Boiler H. P. Pump will Feed at Slow Speed	Dia. Pipes, Inches				Floor Space, Inches
Dia. Steam Cylinder	Dia. Water Cylinder	Stroke		No. Single Strokes	Feet Piston Speed	Gallons		Steam	Exhaust	Suction	Discharge	
3 1/2	2 1/4	4	.069	165	55	11	80	3/8	1/2	1	3/4	29x 8
4 1/2	2 3/4	6	.15	140	70	21	150	1/2	3/4	1 1/4	1	39x11
5 1/2	3 1/4	7	.25	137	80	34	250	1/2	3/4	1 1/2	1 1/4	44x11
6 1/2	4 1/8	8	.46	135	90	62	450	3/4	1	2 1/2	2	50x13
7 1/2	4 1/2	10	.69	114	95	78	575	1	1 1/4	3	2 1/2	59x15
8	5	12	1.02	100	100	102	725	1	1 1/4	3 1/2	3	67x15
10	6	12	1.47	100	100	147	1050	1 1/4	1 1/2	4	3 1/2	70x15
12	7	12	2.00	100	100	200	1425	1 1/2	2	5	4	70x15
14	8	12	2.61	100	100	261	1865	2	2 1/2	5	4	75x18
16	10	18	6.12	74	110	453	3500	2 1/2	3	8	6	96x22

These pumps can be run at a greater speed than above listed, in case of emergency, but for continuous work we recommend from 25 to 50% less than maximum listed speed.



3794 RN

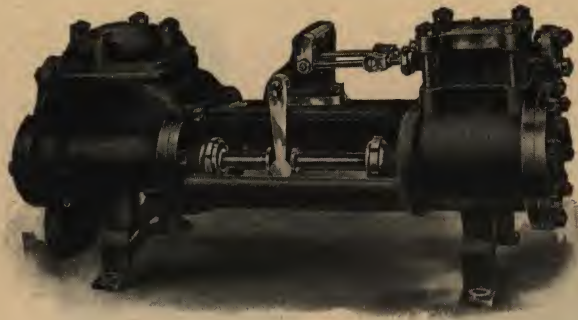
BLAKE-KNOWLES SINGLE HORIZONTAL END PACKED PLUNGER PUMPS—POT VALVE PATTERN, PLATE 3794 RN
Style "A" Simplex Steam End.

Plunger pumps, especially under the higher ranges of pressure, have certain advantages over piston pumps. No leak can occur without being observed, and this can be quickly stopped by setting up the packing. The plungers not touching the pump castings, there is no cutting or wear, as with piston pumps, when working on gritty or sandy water.

Maximum Working Pressure: Steam End, 250 Lbs.; Water End, 300 Lbs.

Size, Inches			Gallons per Stroke	Maximum Capacity Per Minute			H. P. Boiler Pump will Feed at Slow Speed	Dia. Pipes, Inches				Floor Space, Inches
Dia. Steam Cylinder	Dia. Water Plunger	Stroke		No. Single Strokes	Ft. Piston Speed	Gallons		Steam	Exhaust	Suction	Discharge	
4 1/2	2 3/4	6	.15	140	70	21	150	1/2	3/4	1 1/2	1 1/4	68x11
5 1/2	3 1/4	7	.25	137	80	34	250	1/2	3/4	2	1 1/2	74x11
6 1/2	4 1/8	8	.46	135	90	62	450	3/4	1	2 1/2	2	79x13
7 1/2	4 1/2	10	.69	114	95	78	575	1	1 1/4	3	2	92x15
8	5	12	1.02	100	100	102	725	1	1 1/4	3 1/2	2 1/2	102x15
10	6	12	1.47	100	100	147	1050	1 1/4	1 1/2	4	3	112x15
12	7	12	2.00	100	100	200	1425	1 1/2	2	5	4	120x15
14	8	12	2.61	100	100	261	1865	2	2 1/2	5	4	126x18
16	9	18	4.96	74	110	367	2825	2 1/2	3	6	5	175x22

For continuous service these pumps should be operated at from 25 to 50% less than maximum listed speed.



BLAKE-KNOWLES HORIZONTAL DUPLEX PISTON PUMPS—PRESSURE PATTERN, PLATE 3794 SN

Cap and Valve Plate Pattern.

Suitable for Boiler Feeding, Fire or General Service.

These pumps are built on the well-known "duplex" principle, and have all the best features of this desirable type of machine. They are accessible in every part, and are fitted for pumping hot or cold, thick or thin, heavy or light, acid or alkaline liquids, as may be required.

Sizes (except 2x1 1/4 x 2 3/4 which has plug valve end) up to and including 12x6x10 have "cap and valve plate" water ends. All larger sizes (except separate cylinder pattern) "turret top."

Maximum Working Pressure: Steam End, 125 Lbs.; Water End, 150 Lbs.

3794 SN

Size, Inches			Gallons per Stroke, Each Piston	Maximum Capacity Per Minute			H. P. Boiler at 35 lbs. Pump will Feed at Slow Speed	Dia. Pipes, Inches				Floor Space, Inches
Dia. Steam Cylinder	Dia. Water Cylinder	Stroke		Single Str. Each Piston	Ft. Piston Speed	Gallons Both Cyls.		Steam	Exhaust	Suction	Discharge	
2	1 1/4	2 3/4	.015	160	37	4.5	33	3/8	1/2	1	3/4	21x7
3	2	3	.04	160	40	13	93	3/8	1/2	1 1/4	1	24x9
3 1/2	2 1/4	4	.07	150	50	21	143	3/8	3/4	1 1/2	1 1/4	28x9
4 1/2	2 3/4	4	.10	150	50	31	220	1/2	3/4	2	1 1/2	33x13
5 1/4	3 1/2	5	.21	140	58	58	415	1/2	1 1/4	2 1/2	1 1/2	38x16
6	4	6	.33	130	65	85	600	1	1 1/4	3	2	44x17
7 1/2	5	6	.51	130	65	133	950	1 1/2	2	4	3	45x22
7 1/2	4 1/2	10	.69	108	90	149	1060	1 1/2	2	4	3	59x22
9	5 1/4	10	.94	108	90	203	1450	2	2 1/2	4	3	61x23
10	6	10	1.22	108	90	264	1890	2	2 1/2	5	4	62x26
12	6	10	1.22	108	90	264	1890	2	2 1/2	5	4	71x31
10	7	10	1.67	108	90	360	2570	2	2 1/2	6	5	60x26
12	7	12	2.00	96	96	384	2740	2	2 1/2	6	6	76x31
14	7	12	2.00	96	96	384	2740	2 1/2	3	6	6	78x33
12	8 1/2	12	2.95	96	96	566	4040	2	2 1/2	6	6	76x31
14	8 1/2	12	2.95	96	96	566	4040	2 1/2	3	6	6	78x33
16	8 1/2	12	2.95	96	96	566	4040	2 1/2	3	6	6	79x30
14	10 1/4	12	4.29	96	96	823	5890	2 1/2	3	8	7	82x37
16	10 1/4	12	4.29	96	96	823	5890	2 1/2	3	8	7	82x37

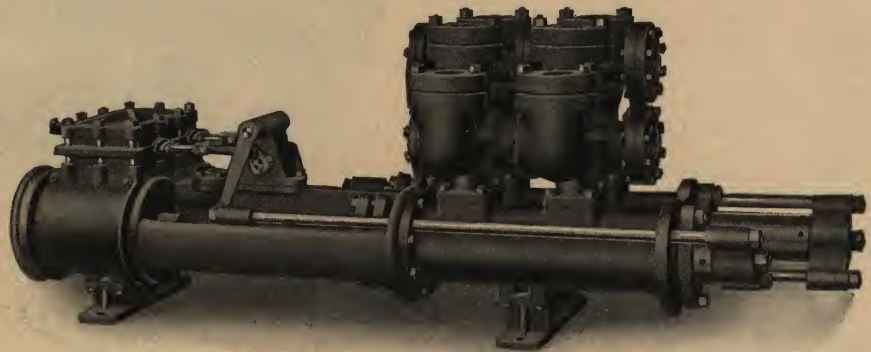
These pumps can be run at a greater speed than above listed, in case of emergency, but for continuous work we recommend from 25 to 50% less than maximum listed speed.

BLAKE-KNOWLES HORIZONTAL DUPLEX END PACKED PLUNGER PUMPS—POT VALVE PATTERN, PLATE 3794 TN

These pumps are built on the well-known "duplex" principle and have all the desirable features of this popular type of machine. They are designed for the same variety of service as the Single Plunger Pumps.

Maximum Working Pressure:

Steam End, 175 Lbs.; Water End, as per List below.



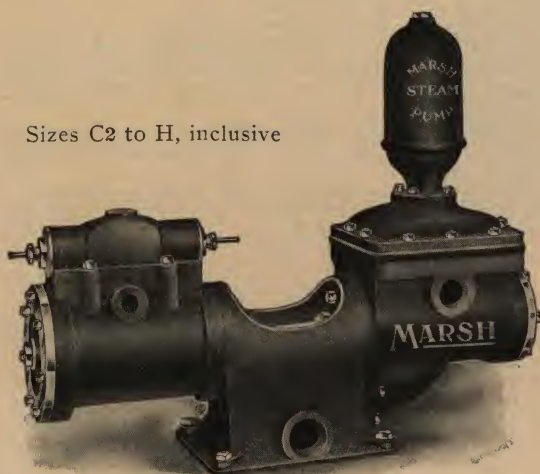
3794 TN

Size, Inches			Max. Water Press. Lbs. per sq. in.	Gals. per Stroke, Each Plunger	Maximum Capacity Per Minute			H. P. Boiler at 35 lbs. Pump will Feed at Slow Speed	Diameter Pipes, Inches				Floor Space, Inches
Dia. Steam Cylinder	Dia. Water Plunger	Stroke			Single Str. Each Plunger	Ft. Piston Speed	Gallons Both Cyls.		Steam	Exhaust	Suction	Discharge	
4 1/2	2	4	300	.05	150	50	16	117	1/2	3/4	1 1/2	1 1/4	55x13
4 1/2	2 1/2	4	300	.08	150	50	25	182	1/2	3/4	2	1 1/2	55x13
5 1/4	3	5	300	.15	140	58	43	306	3/4	1 1/4	2	1 1/2	68x23
6	4	6	300	.33	130	65	85	600	1	1 1/2	3	2 1/2	77x23
7 1/2	4 1/2	6	300	.41	130	65	107	768	1 1/4	1 1/2	4	3	90x27
7 1/2	5	6	300	.51	130	65	133	948	1 1/4	1 1/2	4	3	90x27
7 1/2	4 1/2	10	300	.69	108	90	149	1060	1 1/4	1 1/2	4	3	105x27
7 1/2	5	10	300	.85	108	90	184	1310	1 1/4	1 1/2	4	3	105x27
10	5	12	300	1.02	100	100	204	1460	1 1/2	2	4	3	118x32
10	6	12	300	1.47	100	100	294	2100	1 1/2	2	5	4	118x33
12	5	12	300	1.02	100	100	204	1460	2 1/2	3	4	3	128x36
12	6	12	300	1.47	100	100	294	2100	2 1/2	3	5	4	128x36
12	7	12	300	2.00	100	100	400	2860	2 1/2	3	6	5	128x39
14	6	12	300	1.47	100	100	294	2100	2 1/2	3	5	4	128x39
14	7	12	300	2.00	100	100	400	2860	2 1/2	3	6	5	128x39
14	8	12	300	2.61	100	100	522	3730	2 1/2	3	7	6	128x42
14	9	12	250	3.30	100	100	661	4720	2 1/2	3	8	7	144x42
14	8	18	300	3.92	67	100	525	4480	2 1/2	3	8	7	172x48
16	9	18	250	4.96	67	100	664	5665	2 1/2	3	8	7	172x54
18 1/2	10	18	250	6.12	67	100	820	7000	3	3 1/2	10	8	176x54

For continuous service these Pumps should be operated at from 25 to 50% less than maximum listed speed.



Sizes C2 to H, inclusive



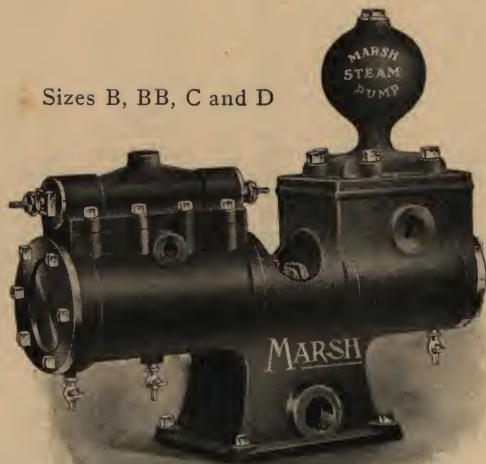
3794 VN

Sizes HH to N



3794 WN

Sizes B, BB, C and D



3794 XN

MARSH STANDARD BOILER FEED PUMPS, PLATE 3794 VN TO PLATE 3794 XN

For high pressure.

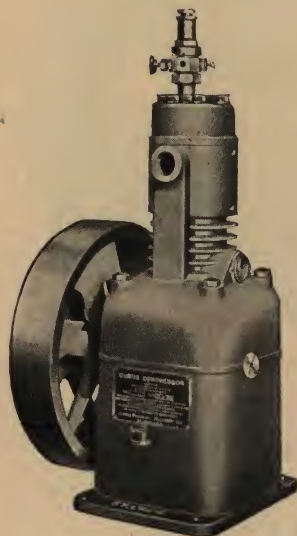
Good for 150 pounds pressure.

Size	Steam Cylinder	Water Cylinder	Stroke	Steam Pipe	Exhaust Pipe	Suction Pipe	Delivery Pipe	Floor Space	Boiler horse-power pump will feed at moderate speed	Weight Pounds	Price
B	2½	1¾	2	¼	¾	¾	½	7x14	20	45	\$ 30
BB	3	1¾	2½	¾	¾	1	¾	8x17	35	75	50
C	4	2¾	3	¾	¾	1¼	¾	10x24	60	170	75
C2	4	2½	6	¾	¾	2	1¼	10x32	100	300	100
D	5	3	3½	½	¾	1½	1	11x26	100	230	100
E	5	3	6	½	¾	2	1¼	10x32	150	320	125
F	5½	3½	6	¾	1	2	1½	12x34	200	400	150
G	6	3½	8	¾	1	2½	2	13x37	250	430	180
FF	6	4	8	¾	1	2½	2	15x39	300	500	200
H	7	4	8	1	1¼	2½	2	15x39	350	525	225
HB	7	4½	10	1	1¼	3½	2½	18x48	400	900	300
HI	7½	4½	10	1	1¼	3½	2½	18x48	450	900	325
I	8	5	10	1	1½	3½	2½	18x48	500	1,000	350
II	8	5	12	1	1½	4	3	18x52	600	1,150	375
L	10	6	12	1¼	1½	4	3	18x52	1,000	1,200	425
M	12	7¼	12	1½	2	5	4	19x56	1,500	1,450	500
MM	12	8	12	1½	2	5	4	19x56	1,650	1,550	525
N	14	8½	12	2	2½	6	5	22x62	2,000	2,650	650
O	16	10	16	3	3½	8	7	24x76	2,500	5,200	1,200
OO	16	9¼	16	3	3½	8	7	24x76	2,200	5,200	1,150
P	16	10	20	3	3½	8	7	24x76	2,700	6,200	1,400
Q	16	9¼	20	3	3½	8	7	24x76	2,400	6,200	1,350
R	20	12	20	3½	4	8	7	26x93	3,500	7,500	1,550

It is always advisable to run boiler feed pumps at moderate speed so that there may always be a reserve capacity in the pump. The boiler horse-powers which our various pumps will feed given in the above table are figured on a basis of four gallons of water per horse-power per hour at moderate speed.



CURTIS MODEL "A" FULL SELF-OILING AIR COMPRESSORS, PLATE 3795 AN AND PLATE 3795 BN



3795 AN

Full self-oiling with sight oil feed regulation.
 No oil blown into the discharge pipe.
 Fully enclosed—dust-proof.
 No oil is fed when the machine is idle, no oil waste.
 One filling of oil will last several weeks.
 Overflow prevents crankcase being filled too full of oil.
 Low oil level indicator is provided.
 All bearings adjustable for wear.
 Upper connecting rod pin amply lubricated.
 Valves of light weight, large area, no heavy cast valves to hammer to pieces and eventually leak.
 No cross-heads, guide bars nor stuffing boxes.
 Fly-wheel can be driven in either direction.
 Automatic compressor unloader for maintaining desired pressure can be furnished if desired.
 All wearing parts exceptionally generous in size.



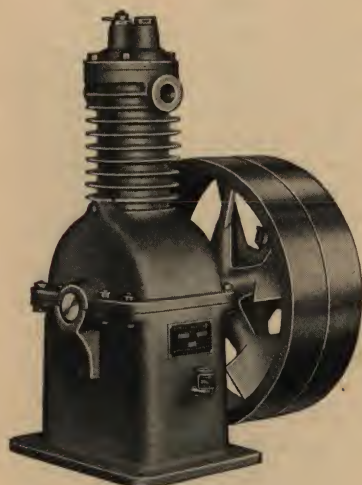
3795 BN

Power required for any given capacity is less with Curtis compressors than competing machines. This has been proven by unbiased tests taken under actual service conditions, and the horse-power mentioned in the table below is the actual energy used during those tests. It is only natural that Curtis compressors require a minimum of power since they have no cross-heads, guides or stuffing boxes to produce friction, and, since the cylinders, heads and valves are water-cooled and the clearances are reduced to a minimum, it permits the air taken into the cylinders to remain as cool as possible and therefore give maximum capacity with less power.

	COMPRESSOR		CAPACITY				HORSE-POWER AT STANDARD AND MAXIMUM SPEEDS					Ship- ping Wgt. Domes- tic
	Bore and Stroke, Inches	Single or Dbl. Cyl.	CU. FT.		80 lbs. Pressure	100 lbs. Pressure	125 lbs. Pressure	150 lbs. Pressure	200 lbs. Pres.			
			FREE AIR	ST'D AIR							R. P. M. St'd	
Plate 3795 AN...	4½ x 4½	Sgl.	200	400	8.3	16.6	1.58- 3.16	1.67- 3.36	1.86- 3.72	2.00-	2.20	385
Plate 3795 AN...	6 x 6	Sgl.	175	300	17.2	29.5	3.28- 5.60	3.45- 5.90	3.85-	4.15-	4.50	730
Plate 3795 BN...	6 x 6	Dbl.	175	300	34.4	59.0	6.55-11.2	6.92-11.9	7.7 -	8.3 -	9.1	1,100
Plate 3795 BN...	7 x 7	Dbl.	160	250	49.9	78.0	9.5 -14.9	10.0 -15.7	11.2 -	12.0 -	13.1	1,700
Plate 3795 BN...	8 x 8	Dbl.	160	225	74.4	104.5	14.2 -19.9	15.0 -21.0	16.7 -	18.0 - ....	....	2,100
Plate 3795 BN...	9 x 9	Dbl.	160	210	106.0	139.0	20.2 -26.5	21.3 -28.3	23.8 - ....	.... - ....	....	3,200
Plate 3795 BN...	10 x 10	Dbl.	160	200	145.5	182.0	27.7 -34.6	29.3 -36.6	32.6 - ....	.... - ....	....	4,000
Plate 3795 BN...	12 x 12	Dbl.	150	190	236.0	298.0	45.0 -57.0	47.4 -60.0	52.8 - ....	.... - ....	....	6,200

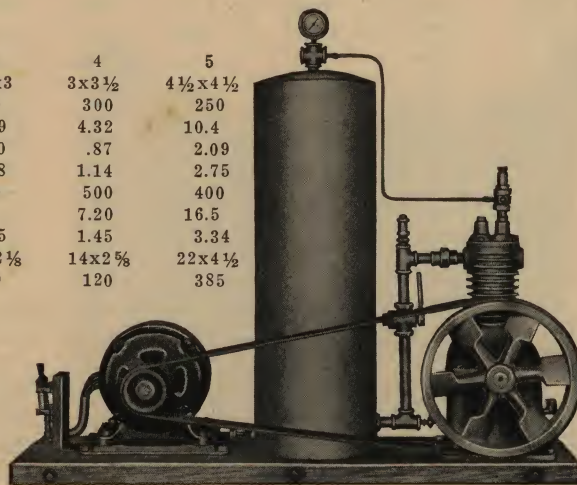
CURTIS MODEL "B" AIR COMPRESSORS, PLATE 3795 CN

These compressors are particularly designed for pneumatic water systems, garage and filling stations, gas engine starting and the like. Model B compressors differ from our Model A compressors principally in the cylinder oiling feature, the Model B having a permanently regulated feed, instead of a regulatable sight feed, as the Model A. The oiling system is of the same controlled-splash oiling type otherwise, preventing an excess amount of oil being delivered over into the discharge pipe, which is a decided feature when considered in connection with compressors used for pneumatic water systems where the water must not be contaminated and in garage station work where oil must not be delivered into tires. The heads, valves, connecting rods, pistons, crankshaft and other parts are exactly alike in both the Model A and Model B. The difference in the oiling system simplifies the manufacture, however, reducing the cost and, therefore, the selling price of the Model B is lower than the Model A. The Model B is made air-cooled only and, as will be noted from the table, includes smaller size machines than the Model A line. For garage installations a number of different types of stationary and portable outfits can be furnished, one of which is illustrated below. Detailed bulletin will be sent on request.

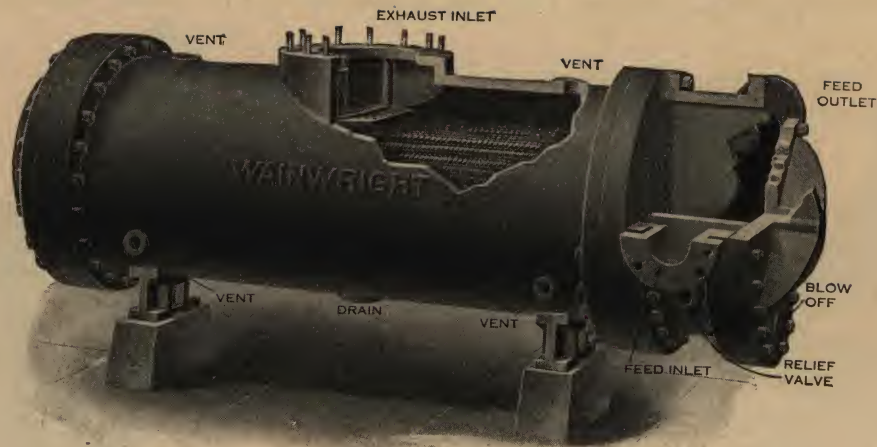


3795 CN

Size	1	2	3	4	5
Bore and stroke.....	1½ x 2	2 ½ x 2 ½	2 ½ x 3	3 x 3 ½	4 ½ x 4 ½
Standard speed.....	500	400	350	300	250
Cubic feet capacity..	1.2	1.8	2.99	4.32	10.4
H. P. at 100 lbs.....	.24	.36	.60	.87	2.09
H. P. at 200 lbs.....	.31	.47	.78	1.14	2.75
Maximum speed.....	700	600	550	500	400
Cubic feet capacity..	1.68	2.70	4.7	7.20	16.5
H. P. at 100 lbs.....	.34	.54	.95	1.45	3.34
Size pulley.....	9x1 ¼	11x2 ½	12x2 ½	14x2 ½	22x4 ½
Shipping weight.....	40	60	100	120	385



3795 DN



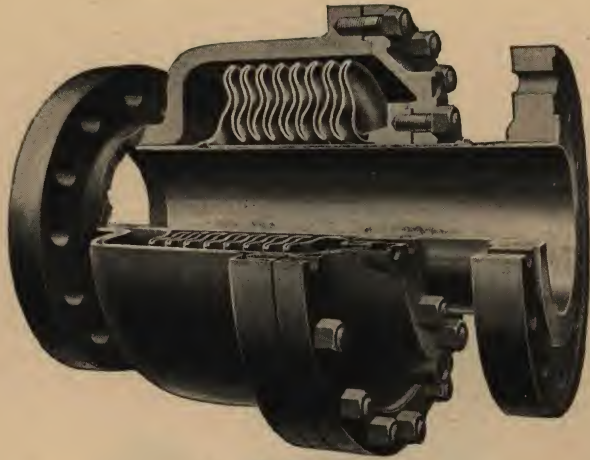
3795 EN

**WAINWRIGHT STANDARD CORRUGATED COPPER TUBE FEED WATER HEATERS,
PLATE 3795 EN**

Number	Boiler, Horse-Power	Pounds Feed Water per Hour	Lbs. Steam per Hour Required to Heat Feed Water 0 Lbs. Gauge Pressure	Height Vertical Type H, Inches	Length Horizontal Type A, Inches	Outside Diam. Shell B, Inches	Outside Diameter Over Flanges E, Inches	Size Pipe Connections, Inches				Weight in Pounds	List Price
								Outside Diameter Over Vertical Type F, Inches	Steam Inlet	Water Inlet and Outlet	Drip		
1PP	50	1,500	242	36	34	9	12½	17	3	1¼	1	500	\$ 150.00
2PP	75	2,250	363	47	46	9	12½	20	3	1¼	1	550	175.00
3PP	100	3,000	484	41	40	11¼	15¼	20	4	1½	1	650	200.00
4PP	125	3,750	605	52	51	11¼	15¼	20	4	1½	1	700	225.00
5PP	150	4,500	726	48	47	11¼	15¼	20	4	1½	1	700	250.00
6PP	200	6,000	968	52	51	11¼	15¼	20	4	1½	1	700	300.00
8P	250	7,500	1,210	77	74	13¼	17¾	30	5	2	1½	1,100	340.00
9P	300	9,000	1,452	76	74	13¼	17¾	30	5	2	1½	1,100	350.00
12P	350	10,500	1,694	66	64	15¾	20	32	6	2½	1½	1,650	430.00
14P	400	12,000	1,936	84	82	15¾	20	32	6	2½	1½	1,950	500.00
15P	500	15,000	2,420	90	88	15¾	20	32	6	2½	1½	2,100	600.00
18P	600	18,000	2,904	92	90	17¾	21⅞	33	8	3	2	2,300	650.00
19P	700	21,000	3,388	98	96	17¾	21⅞	33	8	3	2	2,400	670.00
22P	800	24,000	3,872	98	92	19¾	24	36	10	3	2½	2,850	760.00
23P	900	27,000	4,356	98	92	19¾	24	36	10	3	2½	2,850	840.00
24P	1,000	30,000	4,840	102	96	21¾	27	39	10	4	2½	3,500	1,050.00
25P	1,100	33,000	5,324	108	102	21¾	27	39	10	4	2½	3,650	1,100.00
26P	1,200	36,000	5,808	96	90	23¾	28¾	40	12	4	2½	3,750	1,200.00
27P	1,300	38,000	6,292	102	96	23¾	28¾	40	12	4	2½	3,850	1,300.00
28P	1,400	42,000	6,776	108	102	23¾	28¾	40	12	4	2½	4,000	1,400.00
29P	1,500	45,000	7,260	97	90	26	31	45	12	4	3	4,850	1,450.00
31P	1,800	54,000	8,712	109	102	26	31	45	12	4	3	5,150	1,550.00
32P	2,000	60,000	9,680	109	102	26	31	45	12	4	3	5,150	1,600.00
33P	2,500	75,000	12,100	115	109	26	31	45	12	4	3	5,300	1,650.00
36P	3,000	90,000	14,520	106	102	32½	38	55	14	5	4	7,750	2,450.00
37P	3,500	105,000	16,940	112	108	32½	38	50	14	5	4	8,025	2,500.00
39P	4,000	120,000	19,360	112	108	34½	40¼	52	16	5	4	8,750	2,900.00
42P	5,000	150,000	24,200	117	113	38¾	45	59	18	6	4	11,625	3,300.00
44P	6,000	180,000	29,040	113	109	43½	50	64	20	6	4	14,400	4,000.00

The Wainwright feed water heater is designed to meet any requirement of feed water service found in power plant practice today and is suited equally well for marine or stationary installations.

This heater is of the water tube, instantaneous pressure type and may be furnished in either a vertical or horizontal pattern and with straight corrugated copper tubes of small sizes. Exhaustive tests and many years of experience have enabled us to proportion correctly the sizes and lengths of the tubes and the proper number of passes of the circulating water so that we are able to furnish the most efficient feed water heater on the market today. Efficiency here means that the highest rate of heat transmission from the steam to the water is reached.



3795 FN

STANDARD ALBERGER HIGH-PRESSURE STEEL EXPANSION JOINT, PLATE 3795 FN

For 200 pounds pressure.

The Expansion of Steel Pipe

In the design of a system of steam piping, one of the most important problems is the proper provision for the variation in length of the pipe, which occurs every time the steam is turned on or off.

Steel, such as is used in the manufacture of ordinary "Standard" or "Merchant" pipe, elongates about 0.008 inch per 100 feet of length for each degree Fahrenheit of variation in temperature. In high pressure lines carrying steam at 150 pounds gauge pressure, there is a temperature rise of 326 degrees above the normal underground winter temperature of 40 degrees Fahrenheit. Hence, under these conditions, the total amount of expansion for every 100 feet of steel pipe is 2.6 inches.

The interior forces in the metal produced by expansion are very great, and the entire line must be allowed to expand freely and at the same time be properly anchored and guided. If this is not done, leaky joints or broken flanges are sure to result, and in some cases the piping itself may be distorted.

Pipe size and f. to f. dimensions in inches	Movement in inches	Weight without feet in pounds	Joints with-out anchor foot or outlets	Joints with anchor foot
1 1/2 x 14	1/8	100	73.00	76.00
2 x 14	1/8	100	73.00	76.00
2 1/2 x 14	1/8	100	78.00	81.00
3 x 15	1/8	125	85.00	89.00
4 x 17	1/8	200	117.00	122.00
5 x 19 1/2	1/8	275	142.00	148.00
6 x 19 1/2	2/4	340	165.00	175.00

Pipe size and f. to f. dimensions in inches	Movement in inches	Weight without feet in pounds	Joints with-out anchor foot or outlets	Joints with anchor foot
7 x 20 1/2	2/4	445	198.00	207.00
8 x 20 1/2	2/4	500	235.00	245.00
10 x 27 1/2	2/4	850	345.00	362.00
12 x 27 1/2	2/2	1160	432.00	453.00
14 x 32	2/2	1300	545.00	575.00
16 x 32	2/2	1800	675.00	705.00
18 x 32	2/2	2400	840.00	885.00

When building this expansion joint, the steel discs are welded together and the joint is assembled with the bellows in a neutral position; that is, with none of the working parts under strain. When in service, half of the total amount of lineal travel is taken up on either side of this neutral position. After assembling and testing, spacers are used to force the flange from the neutral position to the maximum one. The overall length at the maximum position is the face to face dimension as tabulated above for the different sizes. The expansion joint is shipped with these spacers in place and they should not be removed until after the fitting has been installed. To safeguard the expansion joint against excessive movement, the flange will strike the locknut when the maximum lineal movement for which the joint is designed has been reached.

The discs which form the elastic element of this Alberger High Pressure Steel Expansion Joint are made of chrome-vanadium steel, and are heat treated and cooled in oil, thus producing a metal having an elastic limit of about 150,000 pounds per square inch, which will withstand innumerable lineal movements without fatigue. The usual troubles being thus eliminated, this expansion joint is suitable for the most severe service.

WAINWRIGHT LOW-PRESSURE EXPANSION JOINT, PLATE 3795 GN

Pipe size in inches	Length face to face in inches	Outside diameter of flange in inches	Thickness of flange in inches	Bolt circle in inches	Number of bolts	Diameter of bolt holes in inches	Maximum movement in inches	Approx. weight in pounds	List prices
4	8 5/8	9	1	7 1/2	8	3/4	1/4	35	\$ 36.00
6	8 5/8	11	1 1/4	9 1/2	8	7/8	1/2	60	48.00
8	8 5/8	13 1/2	1 1/2	11 3/4	8	7/8	1/2	70	56.00
9	8 5/8	15	1 3/8	13 1/4	12	7/8	1/2	75	60.00
10	8 5/8	16	1 3/8	14 1/4	12	1	1/2	80	64.00
12	8 5/8	19	1 3/8	17	12	1	1/2	112	80.00
14	10 1/2	21	1 1/2	18 3/4	12	1 1/8	1/2	160	96.00
15	10 1/2	22 1/4	1 1/2	20	16	1 1/8	1/2	165	104.00
16	10 1/2	23 1/2	1 1/2	21 1/4	16	1 1/8	1/2	175	136.00
18	12 3/4	25	1 1/2	22 3/4	16	1 1/4	1/2	190	144.00
20	12 3/4	27 1/2	1 1/2	25	20	1 1/4	1/2	210	160.00
22	12 3/4	29 1/2	1 1/2	27 1/4	20	1 1/4	1/2	240	176.00
24	12 3/4	32	1 1/2	29 1/2	20	1 1/4	1/2	250	208.00
26	17	34 1/4	1 7/8	31 3/4	24	1 3/8	1/2	375	224.00
28	17	36 1/2	1 7/8	34	28	1 3/8	1/2	425	240.00
30	17	38 3/4	1 7/8	36	28	1 1/2	1/2	460	310.00
36	17	45 3/4	1 7/8	42 3/4	32	1 5/8	1/2	500	360.00
42	17	52 3/4	1 7/8	49 1/2	36	1 5/8	1/2	600	420.00
48	17	59 1/2	1 7/8	56	44	1 5/8	1/2	800	

The general construction of this expansion joint is shown by the cut herewith and consists of a corrugated copper cylinder with both ends flanged over the cast iron or steel flanges. The process of corrugating this copper tube is very slow, as the copper tends to harden during the operation and must be annealed several times before the corrugating process is completed. This work is carried on with great care and an evenly annealed corrugated copper cylinder is produced of uniform thickness throughout.

This type of expansion joint is made in sizes up to 84 inches in diameter, and list prices and dimensions are tabulated above covering sizes up to 48 inches.

Expansion joints up to 24 inches are built for maximum pressures of 20 pounds per square inch and larger sizes for maximum pressures of 10 pounds per square inch.

When in service all sizes are capable of absorbing a lineal travel in the piping of 1/2 an inch, but in order to do this satisfactorily the faces of the flanges must be parallel and also perpendicular to the center line of the expansion joint. Large sizes of the Wainwright Low Pressure Expansion Joint are often used in piping carrying a high vacuum; as, for example, in the exhaust line connecting a turbine to a condenser, and these joints are practically standard for this service. In such installations, gaskets the full width of the flanges should be used, otherwise the gaskets may be forced into the pipe by the atmospheric pressure.

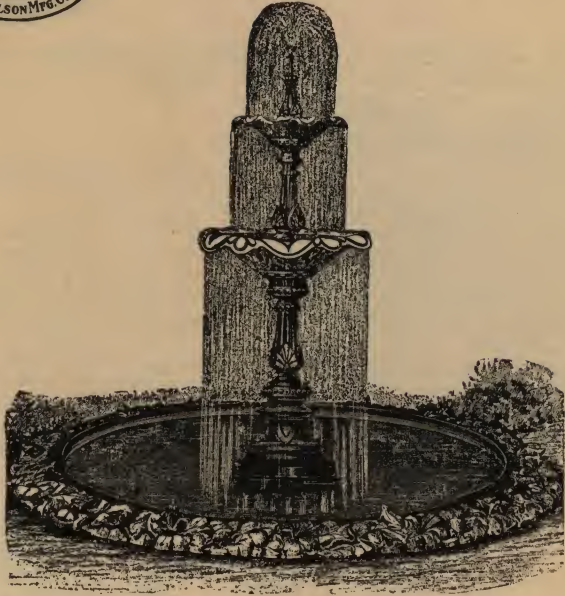
The Wainwright Low Pressure Expansion Joint is absolutely reliable and will give the best satisfaction when properly installed.



3795 GN



No. 574



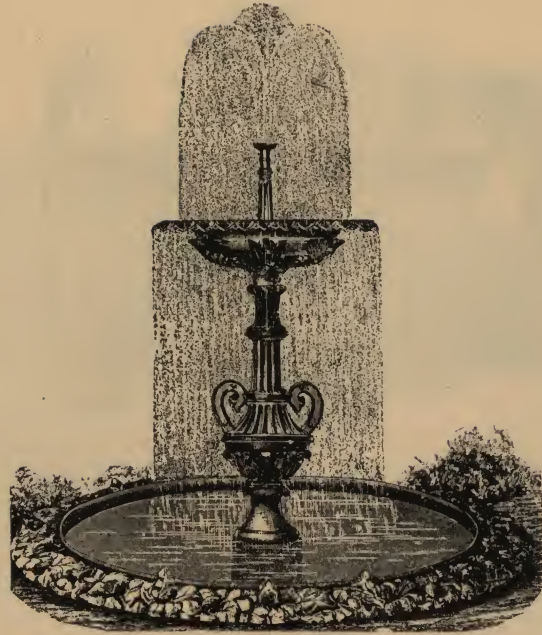
3796 N

TWO-BASIN FOUNTAIN, PLATE 3796 N

Diameter of first basin, 2 feet 3 inches; top basin, 1 foot 5 inches.

	Weight, Pounds	Painted One Coat	Bronzed
5 feet high, no basin.....	265	\$38.00	\$46.00
With 5-foot frog and turtle ground basin	615	73.00	.....
With 6-foot frog and turtle ground basin	765	88.00	.....

No. 577



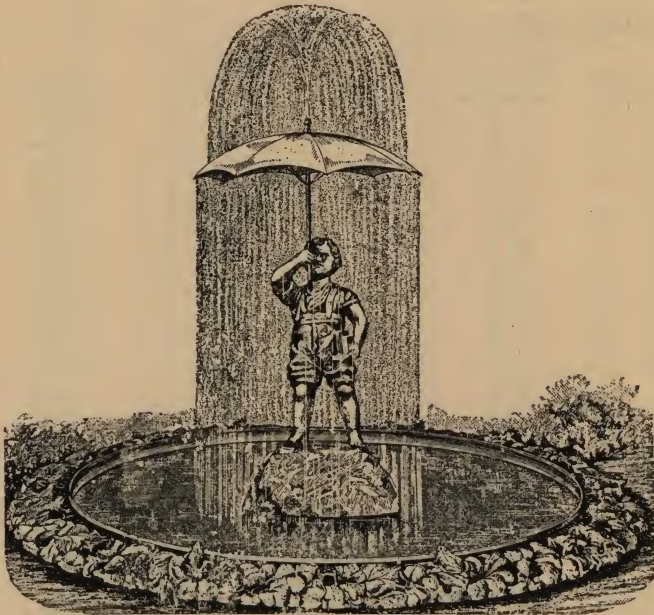
3797 N

ONE-BASIN FOUNTAIN, PLATE 3797 N

Diameter of basin, 16 inches.

	Weight, Pounds	Painted One Coat	Bronzed
2 feet 3 inches high, no basin	50	\$20.00	\$25.00
With 3-foot frog and turtle ground basin	150	36.00	.....
With 3-foot 6-inch frog and turtle ground basin....	190	40.00	.....

No. 576

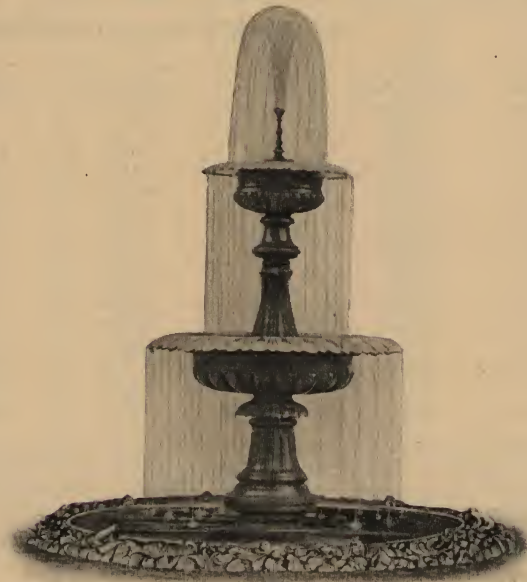


3798 N

**BOY ON ROCK WITH UMBRELLA FOUNTAIN,
PLATE 3798 N**

	Weight, Pounds	Painted One Coat	Bronzed
1 foot 6 inches high to top of umbrella, no basin.....	40	\$13.00	\$15.00
With 2-foot 6-inch frog and turtle ground basin....	115	25.00	.....
With 3-foot frog and turtle ground basin	140	29.00	.....

No. 8



3799 N

TWO-BASIN FOUNTAIN, PLATE 3799 N

First basin, 2 feet. Top basin, 13½ inches.

	Weight, Pounds	Painted One Coat	Bronzed
3 feet 4 inches high.....	125	\$32.50	\$40.00
With 4-foot frog and turtle ground basin	425	57.50	.....
With 5-foot frog and turtle ground basin	525	67.50	.....



No. 7



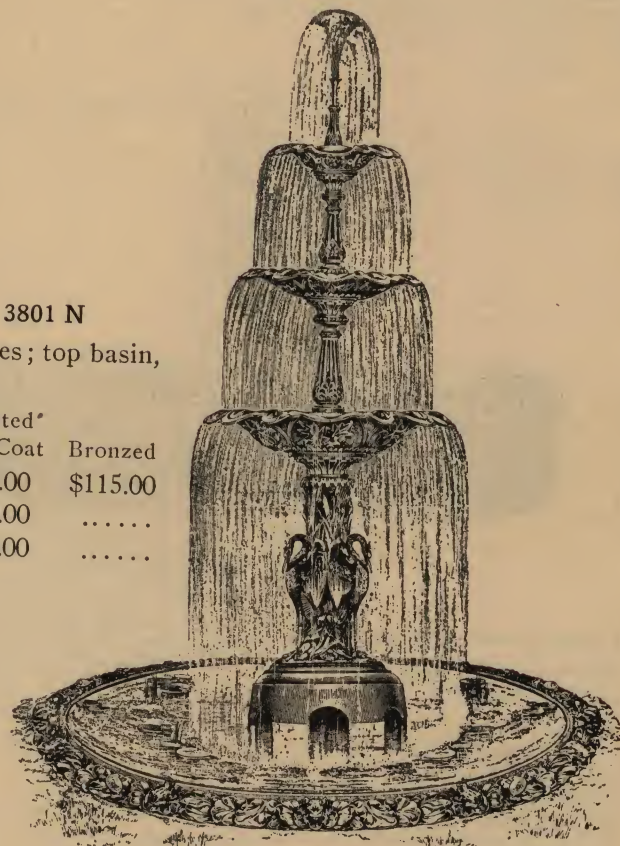
3800 N

THREE-BASIN FOUNTAIN, PLATE 3800 N

Diameter first basin, 2 feet 6 inches; second basin, 2 feet; top basin, 1 foot 2 inches.

	Weight, Pounds	Painted One Coat	Bronzed
5 feet 5 inches high.....	325	\$55.00	\$65.00
With 5-foot frog and turtle ground basin.	675	90.00	.....
With 6-foot frog and turtle ground basin.	825	105.00	.....

No. 649



3801 N

THREE-BASIN AND CRANE FOUNTAIN, PLATE 3801 N

Diameter first basin, 2 feet 10 inches; second basin, 2 feet 3 inches; top basin, 1 foot 8 inches.

	Weight, Pounds	Painted* One Coat	Bronzed
8 feet 2 inches high, no basin.....	450	\$100.00	\$115.00
With 6-foot frog and turtle ground basin.....	950	150.00	.....
With 7-foot 6-inch frog and turtle ground basin..	1,400	215.00	.....



No. 561



3802 N
FIGURE AND ONE-BASIN FOUNTAIN, PLATE 3802 N
 Diameter of basin, 2 feet 4 inches.

	Weight, Pounds	Painted One Coat	Bronzed
5 feet high	255	\$ 53.00	\$63.00
With 5-foot frog and turtle basin.....	600	88.00	.....
With 6-foot frog and turtle basin.....	750	108.00	.....

No. 230—Zinc figure



3803 N
BOY AND SERPENT ON ROCK FOUNTAIN, PLATE 3803 N

	Weight, Pounds	Painted One Coat	Bronzed
2 feet 10 inches high, no basin.....	95	\$42.00	\$45.00
With 5-foot frog and turtle ground basin.....	445	77.00	.....
With 6-foot frog and turtle ground basin.....	595	92.00	.....

No. 43—Zinc



3804 N
BOY, DOLPHIN AND ROCK FOUNTAIN, PLATE 3804 N

	Weight, Pounds	Painted One Coat	Bronzed
2 feet 9 inches high, no basin.....	100	\$50.00	\$60.00
With 4-foot frog and turtle ground basin, on feet 3 feet 6 inches high.....	290	79.00	.....
With 5-foot frog and turtle ground basin, on feet 3 feet 6 inches high.....	450	89.00	.....

Without feet on basin, \$4.00 less.



No. 13



3805 N

No. 11



3806 N

THREE-BASIN FOUNTAIN, PLATE 3805 N

Diameter of first basin, 3 feet; second basin, 2 feet; top basin, 1 foot 4 inches.

	Weight, Pounds	Painted One Coat	Bronzed
8 feet high.....	590	\$ 80.00	\$95.00
With 9-foot frog and turtle ground basin.....	...	210.00	.....

ONE-BASIN FOUNTAIN, PLATE 3806 N

Diameter basin, 2 feet.

	Weight, Pounds	Painted One Coat	Bronzed
3 feet high	130	\$20.00	\$25.00
With 4-foot frog and turtle ground basin.....	320	45.00	.....

No. 453—Zinc



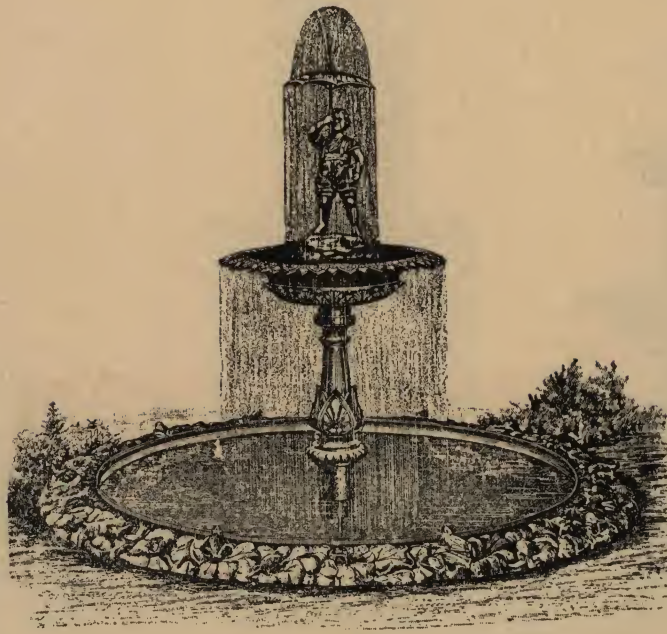
3807 N

BOY AND STORK FOUNTAIN, PLATE 3807 N

	Weight, Pounds	Painted One Coat	Bronzed
3 feet 9 inches high, no basin.....	150	\$100.00	\$115.00
With 5-foot frog and turtle ground basin.....	500	135.00	.....
With 6-foot frog and turtle ground basin.....	650	150.00	.....



No. 573



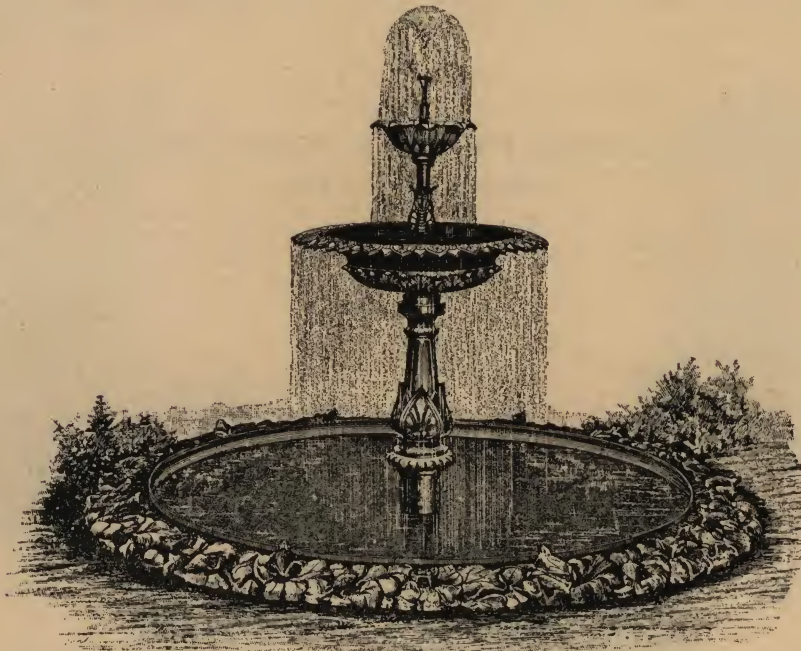
3808 N

BOY AND UMBRELLA AND ONE-BASIN FOUNTAIN, PLATE 3808 N

Diameter of basin, 1 foot 10 inches.

	Weight, Pounds	Painted One Coat	Bronzed
3 feet high, no basin.....	80	\$36.00	\$42.00
With 4-foot frog and turtle ground basin.....	270	61.00	.....
With 5-foot frog and turtle ground basin.....	430	71.00	.....

No. 331



3809 N

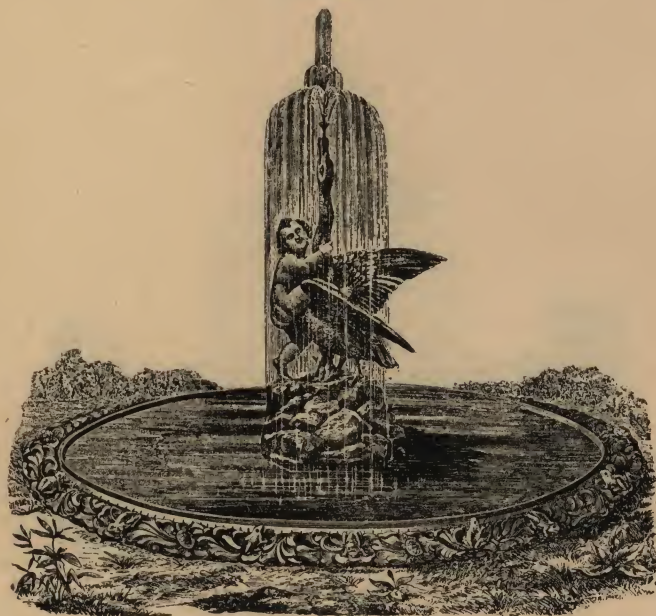
TWO-BASIN FOUNTAIN, PLATE 3809 N

Diameter of first basin, 2 feet; top basin, 1 foot.

	Weight, Pounds	Painted One Coat	Bronzed
3 feet 1 inch high, no basin.....	64	\$24.00	\$30.00
With 3-foot 6-inch frog and turtle ground basin.....	180	44.00	.....
With 4-foot frog and turtle ground basin.....	254	49.00	.....



No. 570



3810 N

BOY AND SWAN FOUNTAIN, PLATE 3810 N

	Weight, Pounds	Painted One Coat	Bronzed
2 feet 6 inches high, no basin.....	100	\$45.00	\$51.00
With 5-foot frog and turtle ground basin.....	450	80.00	.....
With 6-foot frog and turtle ground basin.....	600	95.00	.....

No. 569—Zinc figure



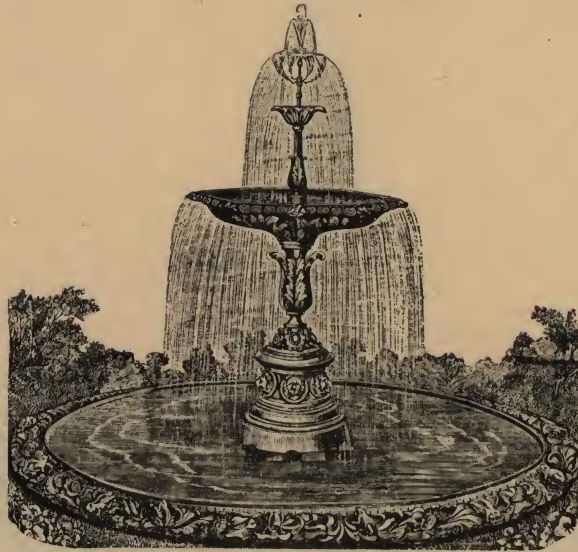
3811 N

BOY ON ROCK FOUNTAIN, PLATE 3811 N

	Weight, Pounds	Painted One Coat	Bronzed
1 foot 3 inches high, no basin.....	40	\$10.00	\$12.00
With 2-foot 6-inch frog and turtle ground basin.....	115	22.00	.....
With 3-foot frog and turtle ground basin.....	140	26.00	.....
With 3-foot 6-inch frog and turtle ground basin.....	280	30.00	.....



No. 326



3812 N

TWO-BASIN FOUNTAIN, PLATE 3812 N

Diameter of first basin, 2 feet 4 inches ; top basin, 9 inches.

	Weight, Pounds	Painted One Coat	Bronzed
4 feet 4 inches high, no basin.....	225	\$ 35.00	\$44.00
With 5-foot frog and turtle ground basin.....	575	70.00	.....
With 6-foot frog and turtle ground basin.....	725	85.00	.....
With 6-foot octagon ground basin.....	725	105.00	.....

No. 246—Zinc figure



3813 N

STORK FOUNTAIN, PLATE 3813 N

	Weight, Pounds	Painted One Coat	Bronzed
4 feet 10 inches high, including plain rose jet.....	140	\$105.00	\$115.00
With 6-foot frog and turtle ground basin.....	640	155.00	.....
With 7-foot frog and turtle ground basin.....	1,040	220.00	.....
With 9-foot frog and turtle ground basin.....	...	235.00	.....





